Astro QB1.U57
No420 pt1
P-A STACKS
SEP 24 1979

AUGUST 1979 Number 420 -- Part I

Solar-Geophysical Data prompt reports

Data for July 1979 -- June 1979

Explanation of Data Reports Issued as Number 414 (Supplement) February 1979

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA AND INFORMATION SERVICE / BOULDER, COLORADO

U.S. DEPARTMENT OF COMMERCE
Juanita M. Kreps, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Richard A. Frank, Administrator
ENVIRONMENTAL DATA AND INFORMATION SERVICE
Thomas D. Potter, Acting Director

Solar - Geophysical Data

NO. 420 AUGUST 1979

Part I (Prompt Reports)

DATA FOR
JULY 1979
JUNE 1979

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80303.

For sale through the National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO 80303. Subscription Price: $34.00 annually for both part I (Prompt Reports) and part II (Comprehensive Reports) or $18.00 annually for either part. Annual supplement containing explanation is included. For foreign mailing add $32.00 for both parts or $16.00 for either part. Single issue price is $1.50 for either part and $1.40 for the extra issue. Make checks and money orders payable to: Department of Commerce, NOAA/NGSDC.
Note: $2.00 Minimum charge per order.
To standardize referencing these reports in the open literature, the following format is recommended:

Solar-Geophysical Data, 414 Part I (or Part II), pages, December 1979 U.S. Department of Commerce, (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 420

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

CONTENTS

PAGE

Part I (Prompt Reports)

Index for 1978 - 1979 2

Data for July 1979 3-41

Data for June 1979 43-169

Part II (Comprehensive Reports)

Index for 1978-1979 2

Data for February 1979 3-54

Data for January 1979 55-65

Miscellaneous Data 67-121

Solar Radio Emission
169 MHz Solar Interferometric Chart Nancay June 1979
21 and 43 cm East-West Solar Scans Fleurs June 1979
Spectral Observations Fort Davis April and May 1979
Cosmic Rays--April and May 1979
Alert, Deep River, Climax and Huancayo
Solar Flares--January 1979
Hα Solar Flares (Standardized Data)
Hα Solar Flares Peking
Daily Flare Indices
Intervals of No Flare Patrol Observation
Regional Flare Index--December 1978

DETAILED COVERAGE FOR 1978 AND 1979 PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1978 Sep	Oct	Nov	Dec	1979 Jan	Feb	Mar	Apr	May	Jun	Jul
A.	SOLAR AND INTERPLANETARY PHENOMENA											
A.1	Sunspot Drawings	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.2a	Zurich Provisional Relative Sunspot Numbers Rz	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.2b	Zurich Final Sunspot Numbers Rz	415A 10	415A 10	415A 10	415A 10							
A.2c	American Relative Sunspot Numbers RA	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.3a	Mt. Wilson Magnetograms	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	411A106	412A102	413A108	414A110	418B 50	418B 60	417A106	418A108	419A110	420A110	
A.3c	Kitt Peak Magnetograms	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.3d	Mean Solar Magnetic Field (Stanford)	410A 41	411A 40	412A 34	413A 42	414A 42	415A 44	416A 42	417A 36	418A 38	4.9A 38	420A 40
A.3e	Stanford Magnetograms					415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.4	H-alpha Filtergrams	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.5	Calcium Plage Drawings - McMath (or Catania)	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.5a	Calcium Plage (McMath) and Sunspot Regions	411A106	412A102	413A108	414A110	418B 50	418B 60	417A106	418A108	419A110	420A110	
A.5b	McMath Daily Calcium Plage Indices	411A116	412A114	413A116	414A121	415A125	416A116	417A118	418A118	419A123	420A121	
A.6	H-alpha Synoptic Charts	411A 44	412A 38	413A 46	414A 46	415A 48	416A 46	417A 40	418A 42	419A 43	420A 44	
A.6b	Synoptic Chart and Active Regions (Paris)	415B 4	416B 4	417B 4	418B 4	419B 4	420B 4					
A.6c	Stanford Solar Magnetic Field Synoptic Charts					415A 49	416A 47	417A 41	418A 43	419A 44	420A 46	
A.6d	Kitt Peak Solar Magnetic Field Synoptic Charts								418A 45	419A 45	420A 48	
A.7f	Helium D3 Chromosphere (Big Bear)	410A 37	411A 36	----	413A 38	----	----	416A 38	417A 33	418A 34	419A 34	420A 35
A.7g	Helium Synoptic Maps (KPNO)	410A 38	411A 35	412A 30	413A 36	414A 34	415A 40	416A 36	417A 32	418A 33	419A 33	420A 34
A.7h	Coronal Line Emission (Sac Peak)	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.8aa	2800 MHz - Daily Values of Solar Flux (AHO-Ottawa)	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (AHO-Ottawa)	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.8g	Daily Values of Adjusted Solar Flux (AFGL)	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.9cb	8.6 mm Radio Maps of the Sun (NOSC - La Posta)	411A 46	----	----	----	----	----	----	----	419A 48	420A 50	
A.9d	2 cm Radio Maps of the Sun (NOSC - La Posta)	411A 46	----	----	----	----	----	----	----	419A 48	420A 50	
A.10a	169 MHz - Interferometric Observations (Nancay)	410A 23	411A 20	412A 18	413A 21	414A 24	415A 25	416A 25	417A 21	419B 52	420B 69	420A 24
A.10c	21 cm East-West Solar Scans (Fleurs)	412B 58	411A 23	412A 21	415B 68	414A 27	415A 28	416A 28	417A 24	418A 25	420B 70	420A 27
A.10d	43 cm East-West Solar Scans (Fleurs)	412B 59	411A 24	412A 22	415B 69	414A 28	415A 29	416A 29	417A 25	418A 26	420B 71	420A 28
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	410A 25	411A 22	412A 20	413A 23	414A 26	415A 27	416A 27	417A 23	418A 24	419A 26	420A 26
A.10f	3 cm East-West Solar Scans (Toyokawa)	410A 24	411A 21	412A 19	413A 22	414A 25	415A 26	416A 26	417A 22	418A 23	419A 25	420A 25
A.11k	Solar X-ray Radiation (SOLRAD 11)	411A120	412A118	413A119	414A126	415A129	416A120	417A119	418A122	419A126	420A124	
A.11g	Solar X-ray (SMS/GOES) (graphs)	416B 96	416B 52	417B 41	418B 31	419B 33	420B 53					
A.12ba	Cosmic Ray Protons (Pioneers 6 & 7)	----	----	----	----	414A 36	----	----	----	----	----	----
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	----	----	412A 29	----	414A 37	----	----	----	----	----	----
A.12e	Energetic Solar Particles (IMP H & J)	416B 91	416B 46	417B 36	418B 26		420B 48					
A.12f	Energetic Solar Particles (GMS/SEM)	----	----	----	----	----	----	----	----	----	----	----
A.13a	Solar Wind (Pioneers 6 & 7)	----	----	----	----	414A 36	----	----	----	----	----	----
A.13ab	Solar Wind (Pioneers 8 & 9)	----	----	412A 29	----	414A 37	----	----	----	----	----	----
A.13d	Solar Wind from IPS Measurements	410A 39	414B 50	414B 51	414B 52	414A 39	415A 45	416A 39	417A 37	418A 35	419A 35	420A 37
A.13e	Solar Plasma (IMP H & J)	415B 53	416B 45	417B 35	418B 25	419B 32	419B 47					
A.13f	Solar Wind (Pioneer 12 (Venus))					414A 38	415A 39	416A 35	417A 31	418A 32	419A 32	420A 36
A.17	Interplanetary Magnetic Field (Pioneer 8)	----	----	----	----	----	----	----	----	----	----	----
A.17	Interplanetary Magnetic Field (Pioneer 9)	----	----	412A 29	----	414A 37	----	----	----	----	----	----
A.17c	Inferred IP Magnetic Field	410A 40	411A 38	412A 32	413A 40	415A 42	415A 42	417A 34	417A 34	418A 36	419A 36	420A 38
A.18	Interplanetary Electric Field (Pioneer 8)	----	----	----	----	----	----	----	----	----	----	----
A.18	Interplanetary Electric Field (Pioneer 9)	----	----	412A 29	----	414A 37	----	----	----	----	----	----
B.	IONOSPHERIC (AND RADIO WAVE PROPAGATION) PHENOMENA											
B.52	Graphs of Transmission Frequency Range	411A158	412A162	413A160	414A172	415A162	416A166	417A166	418A166	419A168	420A166	
B.53	Quality Figures Based on Frequency Ranges	411A160	412A161	413A159	414A174	415A161	416A165	417A165	418A165	419A167	420A168	
C.	FLARE-ASSOCIATED EVENTS											
C.1a	Optical Observations Flares	410A 14	411A 14	412A 12	413A 14	414A 14	415A 14	416A 14	417A 12	418A 14	419A 14	420A 14
C.1ba	Optical Observations Flares (Standardized Data)	415B 6	416B 8	417B 6	419B 64	420B 82						
C.1d	Flare Patrol Observations	410A 22	411A 19	412A 17	413A 20	414A 23	415A 24	416A 24	417A 20	418A 23	419A 24	420A 23
C.1d	Flare Patrol Observations	415B 32	416B 30	417B 25	419B 93	420B120						
C.1e	Flare Indices (by day)	415B 31	416B 29	417B 24	419B 92	420B119						
C.1f	Flare Indices (by Region)	416B 70	417B 58	419B 94	420B121							
C.3	Solar Radio Waves - Outstanding Occurrences	415B 33	416B 31	417B 26	418B 6	419B 8	420B 8					
	Solar Radio Waves - Fixed Frequencies - Selected	410A 26	411A 25	412A 23	413A 26	414A 29	415A 30	416A 30	417A 26	418A 28	419A 27	420A 29
C.3t	43.25, 80 and 160 MHz Selected Bursts (Culgoora)	411A144	412A148	413A147	414A159	415A147						
C.4a	Solar Radio Spectral Obs. (Fort Davis)	411A135	414B 53	414B 55	414A142	417B 60	417B 62	417A138	420B 72	420B 75	420A139	
C.4d	Solar Radio Spectral Obs. (Culgoora)	412B 60	412A134	413A134	414A142	415A129	416A134	417A138	418A137	419A142	420A139	
C.4e	Solar Radio Spectral Obs. (Weissenau)	411A135	412A134	413A134	414A142	415A129	416A134	417A138	418A137	419A142	420A139	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	411A135	412A134	413A134	414A142	415A129	416A134	417A138	418A137	419A142	420A139	
C.4h	Solar Radio Spectral Obs. (Dwingeloo)	411A135		413A134	414A142	415A129	416A134	417A138	418A137	419A142	----	
C.4i	Solar Radio Spectral Obs. (Durnten)	411A135	412A134	413A134	415B 70	415A129	416A134	417A138	418A137	419A142		
C.4j	Solar Radio Spectral Obs. (Manila)	411A135	412A134	413A134	414A142	415A129	416A134	417A138	418A137	419A142	420A139	
C.5e	Solar X-ray (SMS/GOES) (graphs)	416B 96	416B 52	417B 41	418B 31	419B 33	420B 53					
C.6	Sudden Ionospheric Disturbances	411A117	412A115	413A117	414A122	415A126	416A117	417A119	418A119	419A124	420A122	
D.	GEOMAGNETIC AND MAGNETOSPHERIC PHENOMENA											
D.1a	Geomagnetic Indices Kp, Kn, Ks, Km, Ap, aa, Cp	411A151	413B 82	413A152	414A164	415A155	416A158	417A158	418A158	419A160	420A160	
D.1ba	27-day Chart of Kp Indices	411A153	412A157	413A154	414A166	415A157	416A160	417A160	418A160	419A162	420A162	
D.1c	27-day Chart of C9	414A167	414A167	414A167	414A167							
D.1d	Principal Magnetic Storms	411A156	412A160	413A157	414A170	415A158	416A163	417A163	418A163	419A165	420A165	
D.1e	Reduced Magnetograms											
D.1f	Sudden Commencement and Solar Flare Effects	411A157	412A161	413A158	414A171	415A160	416A164	418B 76	419B 63	419A166		
D.1g	Equatorial Indices Dst	411A155	412A159	413A156	414A169	416B 90	416A162	417A162	418A162	419A164	420A164	
D.1h	Geomagnetic Substorm Log (Boulder)	410A 43	411A 41	412A 36	413A 43	414A 43	415A 46	416A 43	417A 38	418A 39	419A 39	420A 41
F.	COSMIC RAYS											
F.1a	Cosmic Ray Neutron Counts (Deep River)	411A150	412A154	414B 57	414A161	415A154	416A151	417A151	418A151	419A153	420A155	
F.1b	Cosmic Ray Neutron Counts (Climax)		415B 72	415B 72	415B 72	416B 88	416A151	417A151	418A151	419A153	420A155	
F.1e	Cosmic Ray Neutron Counts (Alert)	411A150	412A154	414B 57	414A161	415A154	416A151	417A151	418A151	420B 78	420A155	
F.1f	Cosmic Ray Neutron Counts (Calgary)											
F.1h	Cosmic Ray Neutron Counts (Thule)	419B 62	419B 62	419B 62	419B 62	419B 62	419B 62	419B 62	419B 62	419A153	420A155	
F.1i	Cosmic Ray Neutron Counts (Kiel)	411A150	412A154	413A149	418B 74	415A154	416A151	417A151	418A151	419A153	420A155	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	411A150	412A154	413A149	418B 74	415A154	416A151	417A151	418A151	419A153	420A155	
F.1k	Cosmic Ray Neutron Counts (Kula)											
F.1l	Cosmic Ray Neutron Counts (Huancayo)						417B 67	418B 72	419B 58	420B 79	420A155	
H.	MISCELLANEOUS											
H.60	IUWDS Alert Decisions	410A 5	411A 4	412A 4	413A 5	414A 4	415A 5	416A 4	417A 4	418A 5	419A 5	420A 5
H.62	Abbreviated Calendar Record	416B 62	417B 50	418B 40	419B 42	420B 58						

Notes:

"411A 46" listed under 1978 Sep means that the sunspot drawings for September 1978 were contained in *Solar-Geophysical Data* Number 411 - Part I, beginning on page 46.

A = Part I, B = Part II.

---- = no data available.
blank = data not yet received.

SGD 420 Part I (Prompt)

JULY 1979 DATA

Contents

	Page
Alert Periods	
IUWDS Alert Periods (Advance and Worldwide)	5-9
Daily Solar Indices	
Relative Sunspot Numbers, R_z, and Daily Solar Flux at 2800 MHz (12 Month Tables)	10
Daily Solar Indices (Sunspot Numbers and Solar Fluxes)	11
Graph of Observed and Predicted Sunspot Numbers	12
Smoothed Observed and Predicted Sunspot Numbers	13
Solar Flares	
Hα Solar Flares	14-22
Intervals of No Flare Patrol Observation	23
Solar Radio Emission	
169 MHz Solar Interferometric Chart - Nancay	24
3 cm East-West Solar Scans - Toyokawa	25
10.7 cm East-West Solar Scans - ARO, Ottawa	26
21 cm East-West Solar Scans - Fleurs	27
43 cm East-West Solar Scans - Fleurs	28
Selected Fixed Frequency Events	29-32
Selected Solar Noise Bursts	33
Spacecraft Observations	
Pioneer XII (Pioneer Venus)	36
Coronal Holes	
Helium 10830 Å Synoptic Maps	34
Helium D3 Chromosphere	35
Solar Wind Measurements	
Interplanetary Scintillations	37
Inferred Interplanetary Magnetic Field Polarities	38
Mean Solar Magnetic Field	
Stanford Mean Solar Magnetic Field (Map)	39
Stanford Mean Solar Magnetic Field (Table)	40
Geomagnetic	
Boulder Geomagnetic Substorm Log	41

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

JULY 1979

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

04 JULY 1979 PRESTO BOULDER 04/2215Z TENFLARE 350 FLUX UNITS 04/1910Z DURATION 79 MINUTES.

07 JULY 1979 PRESTO BOULDER 07/0130Z PROTON EVENT BEGAN AT 07/0015Z 22 PROTONS/CM²/S/STR AT GREATER THAN 10 MEV AT 07/0130Z.

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	No. of Flares: Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
182	01	30	182	173	010	S12W52	0	0	0		01	S12W52	Q	SOLQUIET MAGQUIET
						N14E01	0	0	0			N14E01	Q	
						N18E04	0	0	0			N18E04	E	
						S07W67	0	0	0			S07W67	Q	
						N05E37	1	0	0			N05E37	E	
						N19W65	2	0	0			N19W65	E	
						N19E41	2	0	0			N19E41	DA	
						S21E43	0	0	0			S21E43	Q	
						N09W81	0	0	0			N09W81	Q	
						N05E65	0	0	0			N05E65	Q	
						S19W12	0	0	0			S19W12	Q	
						S28E65	1	0	0			S28E65	Q	
						S13E63	1	0	0			S13E63	E	
183	02	01	185	180	013	S10W65	0	0	0		02	S10W65	Q	SOLQUIET MAGQUIET
						N15W13	2	0	0			N15W13	DA	
						N18W10	0	0	0			N18W10	DE	
						N04E24	0	0	0			N04E24	E	
						N20W79	0	0	0			N20W79	Q	
						N18E28	5	0	0			N18E28	E	
						S22E29	0	0	0			S22E29	DE	
						N05E51	0	0	0			N05E51	CE	
						S28E51	2	0	0			S28E51	CE	
						N09E08	0	0	0			N09E08	Q	
						S15E47	3	0	0			S15E47	E	
						N21E72	0	0	0			N21E72	DE	
						N09E77	0	0	0			N09E77	CE	
184	03	02	247	195	003	S10W79	0	0	0		03	S10W79	Q	SOLQUIET MAGALERT MINOR 03/04
						N15W27	4	0	0			N15W27	E	
						N18W23	0	0	0			N18W23	Q	
						N04E09	0	0	0			N04E09	Q	
						N19E14	0	0	0			N19E14	E	
						S22E20	0	0	0			S22E20	Q	
						N05E38	0	0	0			N05E38	Q	
						S14E33	0	0	0			S14E33	Q	
						N25E57	0	0	0			N25E57	Q	
						N08E64	0	0	0			N08E64	Q	
						N08E77	1	0	0			N08E77	Q	
						N20E67	0	0	0			N20E67	Q	
185	04	03	338	207	017	N15W41	0	0	0		04	N15W41	E	SOLALERT 04/06 MAGALERT 04/06
						N05W04	2	0	0			N05W04	E	
						N18W01	4	0	0			N18W01	A	
						S22E06	0	0	0			S22E06	Q	
						N05E23	0	0	0			N05E23	Q	
						S27E16	0	0	0			S27E16	Q	
						N10W19	0	0	0			N10W19	E	
						S13E20	0	0	0			S13E20	Q	
						N24E42	1	0	0			N24E42	Q	
						N08E50	1	0	0			N08E50	Q	
						N09E58	0	0	0			N09E58	Q	
						N19E52	0	0	0			N19E52	Q	
						S17E03	0	0	0			S17E03	Q	
						N07E37	0	0	0			N07E37	Q	
						N12E73	0	0	0			N12E73	Q	
						S28E83	0	0	0			S28E83	Q	
						S19E82	0	0	0			S19E82	Q	
186	05	04	334	211	007	N14W52	0	0	0	SAGAMORE HILL	05	N14W52	Q	SOLALERT MINOR 05 MAGALERT 05/06
						N04W15	0	0	0	REPORTS TENFLARE		N04W15	Q	
						N19W12	0	0	0	WITH 350 FLUX UNITS		N19W12	E	
						S12W04	0	0	0	STARTING AT		S12W04	Q	
						N05E12	0	0	0	04/1910Z AND		N05E12	Q	
						N10W30	0	0	0	LASTING 79 MINUTES.		N10W30	E	
						S14E07	0	0	0			S14E09	Q	
						N23E31	0	0	0			N23E31	Q	
						N11E36	5	1	0			N11E36	E	
						N11E44	0	0	0			N11E44	Q	
						S16W09	0	0	0			S16W09	Q	
						N09E22	0	0	0			N09E22	Q	
						N14E61	1	0	0			N14E61	Q	
						S28E67	2	0	0			S28E67	Q	
						S16E67	0	0	0			S16E67	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

JULY 1979

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
187	06	05	306	198	010	N15W66	1	0	0		06	N15W66	Q	SOLALERT 06/XX MAGNIL
						N07W26	0	0	0			N07W26	Q	
						N18W27	3	0	0			N18W27	DA	
						S21W17	0	0	0			S21W17	Q	
						N06W00	0	0	0			N06W00	Q	
						N10W44	1	0	0			N10W44	Q	
						S13W08	1	0	0			S13W08	Q	
						N23E18	0	0	0			N23E18	Q	
						N11E23	0	0	0			N11E23	CA	
						N09E31	0	0	0			N09E31	Q	
						N08E08	0	0	0			N08E08	Q	
						N13E48	0	0	0			N13E48	Q	
						S29E55	3	0	0			S29E55	Q	
						S16E55	0	0	0			S16E55	Q	
						N11W14	0	0	0			N11W14	Q	
						N18E34	0	0	0			N18E34	Q	
						N20E51	1	0	0			N20E51	Q	
						N27E71	0	0	0			N27E71	Q	
188	07	06	303	210	015	N15W80	1	0	0	SUDDEN COMMENCE-	07	N15W80	Q	SOLNIL MAGQUIET
						N07W38	0	0	0	MENT SYDNEY, TOKYO,		N07W38	Q	
						N18W39	2	0	0	BOULDER 06/1931Z.		N18W39	DA	
						S21W30	0	0	0	PROTON EVENT BEGAN		S21W30	E	
						N05W14	0	0	0	07/0015Z. GREATER		N05W14	Q	
						S15W20	2	0	0	THAN 10 MEV FLUX		S15W20	DA	
						N24E05	0	0	0	EQUALED		N24E05	Q	
						N11E11	1	0	0	22 PART/CM²/S/STR		N11E11	E	
						N09E18	0	0	0	AT 07/0130Z.		N09E18	Q	
						N08W06	0	0	0			N08W06	E	
						N13E36	0	0	0			N13E36	Q	
						S29E42	1	0	0			S29E42	E	
						S17E43	0	0	0			S17E43	E	
						N18E22	0	0	0			N18E22	Q	
						N21E38	3	0	0			N21E38	E	
						N28E59	0	0	0			N28E59	Q	
						S32W07	0	0	0			S32W07	Q	
189	08	07	265	201	018	N07W54	2	0	0		08	N07W54	E	SOLQUIET MAGQUIET
						N18W54	1	0	0			N18W54	Q	
						S21W43	1	0	0			S21W43	Q	
						N05W26	0	0	0			N05W26	Q	
						S14W34	1	0	0			S14W34	Q	
						N24W07	0	0	0			N24W07	Q	
						N11W01	1	0	0			N11W01	CA	
						N14E23	0	0	0			N14E23	Q	
						S28E27	1	0	0			S28E27	Q	
						S17E30	2	0	0			S17E30	Q	
						N18E07	0	0	0			N18E07	Q	
						N22E24	0	0	0			N22E24	Q	
						N27E44	1	0	0			N27E44	Q	
						N08W08	1	0	0			N08W08	Q	
						N17E07	0	0	0			N17E07	Q	
190	09	08	274	200	008	N18W66	0	0	0		09	N18W66	Q	SOLQUIET MAGQUIET
						S22W56	3	0	0			S22W56	DA	
						S06W55	0	0	0			S06W55	Q	
						N05W39	0	0	0			N05W39	Q	
						N24W20	2	0	0			N24W20	Q	
						N08W19	0	0	0			N08W19	Q	
						N11W13	1	0	0			N11W13	DA	
						N12W12	0	0	0			N12W12	Q	
						N18W06	1	0	0			N18W06	Q	
						N14E07	0	0	0			N14E07	Q	
						N20E10	2	0	0			N20E10	CE	
						S28E15	1	0	0			S28E15	CE	
						S17E17	1	0	0			S17E17	Q	
						N28E32	7	1	0			N28E32	CA	
191	10	09	222	193	008	N17W80	0	0	0		10	N17W80	Q	SOLQUIET MAGQUIET
						S22W68	1	0	0			S22W68	Q	
						N07W50	0	0	0			N07W50	Q	
						N23W34	1	0	0			N23W34	Q	
						N11W26	4	0	0			N11W26	E	
						N14W07	0	0	0			N14W07	Q	
						S26E02	1	0	0			S26E02	Q	
						S16E03	0	0	0			S16E03	Q	
						N19W20	1	0	0			N19W20	Q	
						N22W02	2	0	0			N22W02	Q	
						N28E20	2	0	0			N28E20	Q	
						N12E53	0	0	0			N12E53	E	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

JULY 1979

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of obser-vation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location	No of Flares				Date	Location	Desc*	
						Lat-Long	Total	M	X			Lat-Long		
192	11	10	212	180	008	S22W83	0	0	0		11	S22W83	E	SOLQUIET MAGQUIET
						N06W68	0	0	0			N06W68	Q	
						N22W48	1	0	0			N22W48	Q	
						N11W43	1	0	0			N11W43	E	
						N12W20	0	0	0			N12W20	Q	
						S28W10	0	0	0			S28W10	Q	
						S17W10	1	0	0			S17W10	Q	
						N19W33	0	0	0			N19W33	Q	
						N22W15	4	0	0			N22W15	Q	
						N28E06	1	0	0			N28E06	E	
						N11E39	0	0	0			N11E39	Q	
193	12	11	199	181	007	N05W82	0	0	0		12	N05W82	Q	SOLQUIET MAGQUIET
						N21W61	1	0	0			N21W61	Q	
						N11W56	0	0	0			N11W56	Q	
						N12W32	1	0	0			N12W32	Q	
						S26W25	0	0	0			S26W25	Q	
						S18W23	0	0	0			S18W23	Q	
						N20W47	0	0	0			N20W47	Q	
						N22W28	2	0	0			N22W28	Q	
						N28W04	2	0	0			N28W04	Q	
						N11E23	0	0	0			N11E23	Q	
						S28E72	1	0	0			S28E72	Q	
194	13	12	183	164	005	N21W73	0	0	0		13	N21W73	Q	SOLQUIET MAGQUIET
						N11W68	0	0	0			N11W68	Q	
						N14W45	1	0	0			N14W45	Q	
						S26W38	0	0	0			S26W38	Q	
						S17W35	0	0	0			S17W35	Q	
						N22W39	2	0	0			N22W39	E	
						N27W17	0	0	0			N27W17	Q	
						N10E10	0	0	0			N10E10	Q	
						S26E59	1	0	0			S26E59	Q	
						N29E77	0	0	0			N29E77	Q	
						N15W38	0	0	0			N15W38	Q	
195	14	13	195	156	013	N21W87	0	0	0		14	N21W87	Q	SOLQUIET MAGQUIET
						N11W84	0	0	0			N11W84	Q	
						N12W59	0	0	0			N12W59	Q	
						S27W53	0	0	0			S27W53	Q	
						S18W49	0	0	0			S18W49	Q	
						N21W54	1	0	0			N21W54	Q	
						N28W30	0	0	0			N28W30	Q	
						N10W02	1	0	0			N10W02	Q	
						S26E45	1	0	0			S26E45	Q	
						N29E65	0	0	0			N29E65	Q	
						S12W59	0	0	0			S12W59	Q	
						S12E53	0	0	0			S12E53	Q	
196	15	14	179	153	008	N14W69	0	0	0		15	N14W69	Q	SOLQUIET MAGQUIET
						S27W64	0	0	0			S27W64	Q	
						S18W61	0	0	0			S18W61	Q	
						N22W67	9	0	0			N22W67	A	
						N27W43	0	0	0			N27W43	Q	
						N10W16	0	0	0			N10W16	Q	
						S27E34	4	0	0			S27E34	E	
						N29E53	7	0	0			N29E53	E	
						S27W07	0	0	0			S27W07	Q	
						S03E78	0	0	0			S03E78	Q	
						S25W24	0	0	0			S25W24	Q	
197	16	15	182	150	014	N14W81	0	0	0		16	N14W81	Q	SOLQUIET MAGQUIET
						S27W79	2	0	0			S27W79	Q	
						S18W74	0	0	0			S18W74	Q	
						N20W80	8	0	0			N20W80	E	
						N27W55	0	0	0			N27W55	Q	
						N11W29	0	0	0			N11W29	Q	
						S27E22	0	0	0			S27E22	Q	
						N29E41	0	0	0			N29E41	E	
						S26W25	0	0	0			S26W25	Q	
						S05E73	0	0	0			S05E73	Q	
						S24W37	0	0	0			S24W37	Q	
198	17	16	153	139	010	S18W88	0	0	0	TOYOKAWA REPORTED A	17	S18W88	Q	SOLQUIET MAGQUIET
						N27W66	0	0	0	TENFLARE OF 120		N27W66	Q	
						N11W43	0	0	0	UNITS AND 7 MINUTES		N11W43	Q	
						S28E08	0	0	0	DURATION AT		S28E08	Q	
						N28E29	0	0	0	16/0036Z.		N28E29	E	
						S05E59	0	0	0			S05E59	Q	
						S25W48	0	0	0			S25W48	Q	
						S19W26	0	0	0			S19W26	Q	
						N14W94	1	0	0			N14W94	Q	
						N20W93	3	0	0			N20W93	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

JULY 1979

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
199	18	17	151	138	011	N10W58	0	0	0		18	N10W58	Q	SOLQUIET MAGQUIET
						S28W04	0	0	0			S28W04	Q	
						N28E16	0	0	0			N28E16	Q	
						S05E45	1	0	0			S05E45	Q	
						S25W61	1	0	0			S25W61	Q	
						S18W38	0	0	0			S18W38	Q	
						S21E29	0	0	0			S21E29	Q	
						N12E72	0	0	0			N12E72	Q	
200	19	18	169	139	014	N10W72	0	0	0		19	N10W72	Q	SOLQUIET MAGALERT 19/20
						S26W18	0	0	0			S26W18	Q	
						N29E02	0	0	0			N29E02	Q	
						S03E31	0	0	0			S03E31	Q	
						S25W72	0	0	0			S25W72	Q	
						S18W52	0	0	0			S18W52	Q	
						N11E61	0	0	0			N11E61	Q	
						N32E42	0	0	0			N32E42	Q	
						N28W31	0	0	0			N28W31	Q	
						S20W14	0	0	0			S20W14	Q	
201	20	19	175	139	012	S18W67	0	0	0		20	S18W67	Q	SOLQUIET MAGNIL
						S26W32	0	0	0			S26W32	Q	
						S13W32	0	0	0			S13W32	Q	
						S20W28	0	0	0			S20W28	Q	
						N16W27	1	0	0			N16W27	Q	
						N30W12	0	0	0			N20W12	Q	
						S19E04	0	0	0			S19E04	Q	
						S03E17	7	0	0			S03E17	E	
						N32E28	0	0	0			N32E28	Q	
						N11E50	0	0	0			N11E50	Q	
202	21	20	203	142	011	S26W47	2	0	0		21	S26W47	E	SOLQUIET MAGQUIET
						N29W26	0	0	0			N29W26	Q	
						S03E05	3	0	0			S03E05	E	
						S19W09	0	0	0			S19W09	Q	
						N10E36	0	0	0			N10E36	Q	
						N32E16	0	0	0			N32E16	Q	
						N29W55	4	0	0			N29W55	E	
						S21W41	0	0	0			S21W41	Q	
						N16W41	4	0	0			N16W41	E	
						N01E37	0	0	0			N01E37	Q	
203	22	21	234	142	013	S26W60	2	0	0		22	S26W60	Q	SOLQUIET MAGQUIET
						N29W36	0	0	0			N29W36	Q	
						S04W09	0	0	0			S04W09	Q	
						S19W23	1	0	0			S19W23	E	
						N10E23	0	0	0			N10E23	Q	
						N31E01	1	0	0			N31E01	E	
						N29W68	4	0	0			N29W68	E	
						N16W56	5	0	0			N16W56	A	
						S06E15	0	0	0			S06E15	Q	
						N13W44	0	0	0			N13W44	Q	
204	23	22	218	151	008	S27W73	0	0	0		23	S27W73	Q	SOLALERT 23/26 MAGQUIET
						N30W50	0	0	0			N30W50	Q	
						S04W23	0	0	0			S04W23	Q	
						S19W38	0	0	0			S19W38	Q	
						N11E06	0	0	0			N11E06	Q	
						N31W12	1	0	0			N31W12	Q	
						N29W81	1	0	0			N29W81	Q	
						N15W70	7	0	0			N15W70	A	
						S05E01	0	0	0			S05E01	Q	
						N13W57	1	0	0			N13W57	Q	
						N14E72	0	0	0			N14E72	Q	
						N17E50	0	0	0			N17E50	Q	
205	24	23	212	161	006	N31W64	0	0	0		24	N31W64	Q	SOLALERT 24/XX MAGQUIET
						S04W43	0	0	0			S04W43	Q	
						S18W52	0	0	0			S18W52	Q	
						N11W08	0	0	0			N11W08	Q	
						N33W29	5	0	0			N33W29	Q	
						N16W85	2	0	0			N16W85	A	
						S05W14	1	0	0			S05W14	E	
						N14W72	0	0	0			N14W72	Q	
						N16E57	0	0	0			N16E57	Q	
						N14E08	0	0	0			N14E08	Q	
						S14E22	0	0	0			S14E22	Q	
						S14E49	0	0	0			S14E49	Q	
						N24E04	0	0	0			N24E04	Q	
206	25	24	208	164	008	N29W75	0	0	0		25	N29W75	Q	SOLALERT 25/XX MAGQUIET
						S04W56	0	0	0			S04W56	Q	
						S19W65	0	0	0			S19W65	Q	
						N10W21	1	0	0			N10W21	Q	
						N31W41	6	0	0			N31W41	A	
						S05W25	0	0	0			S05W25	E	
						N14W84	0	0	0			N14W84	Q	
						N15E42	0	0	0			N15E42	Q	
						S13E14	0	0	0			S13E14	A	
						S14E36	0	0	0			S14E36	Q	
						N14E71	0	0	0			N14E71	Q	
						N10W07	0	0	0			N10W07	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

JULY 1979

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
207	26	25	189	157	003	S03W70	0	0	0		26	S03W70	Q	SOLALERT MINOR 26 MAGQUIET
						S18W80	0	0	0			S18W80	Q	
						N09W34	0	0	0			N09W34	Q	
						N31W51	4	0	0			N31W51	Q	
						S07W37	3	0	0			S07W37	E	
						N14E29	0	0	0			N14E29	Q	
						S15W01	1	0	0			S15W01	E	
						S15E21	0	0	0			S15E21	Q	
						N15E56	3	0	0			N15E56	Q	
						S19E66	0	0	0			S19E66	Q	
208	27	26	176	156	008	N11W42	0	0	0		27	N11W42	Q	SOLALERT MAGALERT 27/XX
						N31W66	1	0	0			N31W66	Q	
						S06W53	0	0	0			S06W53	Q	
						N14E17	0	0	0			N14E17	Q	
						S18W14	2	0	0			S18W14	E	
						S14W07	0	0	0			S14W07	Q	
						N15E43	3	0	0			N15E43	A	
						S20E54	1	0	0			S20E54	Q	
						S21E74	0	0	0			S21E74	Q	
						N32E68	0	0	0			N32E68	Q	
						N04E78	0	0	0			N04E78	Q	
209	28	27	192	157	020	N10W61	1	0	0		28	N10W61	Q	SOLALERT MAGALERT 28
						N31W79	0	0	0			N31W79	Q	
						S07W66	0	0	0			S07W66	Q	
						N14E05	0	0	0			N14E05	Q	
						S13W28	1	0	0			S13W28	E	
						S15W07	0	0	0			S15W07	Q	
						N15E29	4	0	0			N15E29	A	
						S20E41	0	0	0			S20E41	Q	
						S22E59	0	0	0			S22E59	Q	
						N05E69	0	0	0			N05E69	Q	
210	29	28	181	154	010	N10W74	0	0	0		29	N10W74	Q	SOLALERT 29 MAGNIL
						S07W79	0	0	0			S07W79	Q	
						N15W10	0	0	0			N15W10	Q	
						S13W43	7	0	0			S13W43	E	
						S14W20	3	1	0			S14W20	A	
						N15E15	4	0	0			N15E15	E	
						S19E29	0	0	0			S19E29	Q	
						S22E45	4	0	0			S22E45	E	
						N05E53	0	0	0			N05E53	Q	
						S16E49	1	0	0			S16E49	Q	
						N11E76	0	0	0			N11E76	Q	
						N24W63	0	0	0			N24W63	Q	
						N34E44	0	0	0			N34E44	Q	
211	30	29	184	153	015	N10W89	0	0	0		30	N10W89	Q	SOLALERT 30/XX MAGQUIET
						N13W25	0	0	0			N13W25	Q	
						S14W53	1	0	0			S14W53	A	
						S14W33	0	0	0			S14W33	A	
						N14E02	1	0	0			N14E02	E	
						S18E16	0	0	0			S18E16	Q	
						S22E32	1	0	0			S22E32	E	
						N05E39	0	0	0			N05E39	Q	
						S13E36	0	0	0			S13E36	Q	
						N12E62	0	0	0			N12E62	Q	
						N12W31	0	0	0			N12W31	Q	
212	31	30	217	157	011	N13W35	0	0	0		31	N13W35	Q	SOLALERT MINOR 31 MAGQUIET
						S15W68	2	0	0			S15W68	Q	
						S16W46	0	0	0			S16W46	Q	
						N16W09	3	0	0			N16W09	Q	
						S18E02	0	0	0			S18E02	Q	
						S22E18	0	0	0			S22E18	E	
						N05E27	0	0	0			N05E27	Q	
						S12E25	0	0	0			S12E25	E	
						N12E51	0	0	0			N12E51	Q	
						N20E03	0	0	0			N20E03	Q	
						N17E19	0	0	0			N17E19	Q	
213	01	31	197	148	003	N14W47	0	0	0		01	N14W47	Q	SOLNIL MAGQUIET
						S16W83	1	0	0			S16W83	Q	
						S15W60	0	0	0			S15W60	Q	
						N16W22	0	0	0			N16W22	Q	
						S18W12	0	0	0			S18W12	Q	
						S22E07	0	0	0			S22E07	Q	
						N05E12	0	0	0			N05E12	Q	
						S12E13	0	0	0			S12E13	Q	
						N12E37	0	0	0			N12E37	Q	
						N22W10	0	0	0			N22W10	Q	
						N17E08	0	0	0			N17E08	Q	

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Doubtful O.G.=Other Groups MF=Major Flare

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

	1978 FINAL					1979 PROVISIONAL						
DAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1	42	136	96	139	110	158	116	116	131	108	121	158
2	48	167	112	122	110	158	127	138	134	106	152	168
3	38	159	105	125	117	191	148	141	135	103	161	205
4	62	162	100	129	115	157	123	142	138	112	178	219
5	74	177	73	121	104	146	134	135	109	113	207	232
6	66	177	74	138	122	173	146	144	91	122	226	249
7	58	147	95	112	138	163	144	146	77	148	222	223
8	62	120	103	118	148	172	142	143	69	165	220	219
9	64	109	121	108	152	165	139	146	61	162	231	191
10	67	99	149	120	144	163	137	143	87	145	205	163
11	58	84	158	118	170	157	137	156	109	148	186	155
12	71	72	158	99	138	159	138	170	107	158	199	145
13	93	92	156	90	165	159	152	169	113	163	172	142
14	93	113	170	78	150	162	163	159	116	203	149	127
15	77	133	166	59	140	178	161	155	117	207	127	121
16	52	143	163	77	143	164	159	130	119	187	103	114
17	50	136	143	92	146	154	160	142	137	184	122	109
18	58	156	135	93	132	146	162	142	98	148	126	109
19	42	159	154	85	95	138	166	136	73	109	110	135
20	36	163	151	76	84	177	169	120	68	107	111	158
21	30	171	144	68	68	181	171	134	68	114	124	151
22	36	148	125	77	63	178	155	140	79	121	108	152
23	45	156	116	55	59	188	127	139	79	117	96	154
24	48	163	104	61	65	209	99	118	88	119	90	143
25	55	168	96	85	51	209	88	114	85	124	120	144
26	45	152	102	101	93	173	108	114	119	123	132	142
27	57	142	115	118	110	162	97	117	125	118	112	146
28	57	126	117	118	122	157	95	114	132	110	128	132
29	59	122	137	111	135	153		110	132	113	124	148
30	72	94	128	103	159	149		127	120	96	154	150
31	100		111		177	130		147		120		144
MEAN	58.1	138.2	125.1	97.9	122.7	165.8	138.0	137.0	102.8	134.5	150.5	159.6

1978 yearly mean = 92.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1978					1979						
DAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1	106.8	159.8	139.0	152.0	166.6	194.1*	185.8	168.5	202.6*	180.4	189.5	186.3
2	106.0	171.7*	137.8	159.0	167.6	200.1	185.6	170.7	207.4	179.2	206.3*	200.9*
3	119.6	167.3	131.7	163.9	164.2	203.5*	187.4*	173.3	194.2	164.3	216.1*	213.4
4	112.3	174.4*	132.5*	177.4	165.3	192.7*	187.7	181.4	183.5	176.8	228.9*	218.1
5	117.6	179.4	138.7*	181.2	169.5	194.9	197.4	180.1*	179.3	169.6	230.2	204.5
6	122.6	181.1	137.4	172.2*	164.5	190.9	206.5	182.4	176.3	171.1*	238.1	211.3
7	126.2	177.5	141.6	174.6	178.5*	186.2	203.4	183.1*	166.7	178.0	238.1	207.2
8	130.6	167.1	150.1	168.3*	149.9	200.1	207.2*	178.9	169.0*	182.4*	242.7	206.7
9	128.1*	157.6*	155.8	164.9*	139.6	192.6	198.7	181.4	169.6	181.3	247.4*	197.9*
10	127.3	149.6	162.3	166.3	204.7	186.2	198.4*	180.6	173.0	174.7	239.9	185.9
11	121.7	141.5	171.6*	163.7	210.5	179.5	202.2*	181.7*	170.0*	178.6	229.6	178.6
12	124.5	138.5	177.2	150.4	217.3	174.5	195.4	188.7	174.5	184.2	208.7	170.1
13	134.9	138.0	178.5	145.3	210.6*	193.9	195.4	186.3	175.8	186.6	193.7	161.4
14	132.7	143.5*	180.1	136.3	197.0	200.0*	204.2*	189.4	170.9	182.0	185.7	154.7*
15	130.6*	152.6	182.0	133.8	192.7	192.1*	205.0*	181.3	168.1	181.9	176.0	151.1
16	123.6	161.5	176.7*	128.8	186.5	189.9*	209.2	183.5*	171.7	176.4	167.5	143.6
17	119.3*	161.8	171.5	123.1	177.7	175.7	213.1	177.7	168.0	187.7	158.1	142.7
18	115.6	169.3*	169.4	127.4	161.5	177.6	237.7	180.6*	158.7	171.3*	152.6	141.2
19	111.6	168.8*	170.4	128.3	152.9	187.8	237.8	177.6	159.4	161.5	146.2	143.6
20	107.5	168.6	171.0	134.3	138.1	197.2	230.1*	184.1	156.1	155.6	151.5	146.6
21	104.8	172.6	166.9*	126.0	132.1*	210.3	225.1	182.2	161.5	155.7	148.9	143.7*
22	136.0	171.5*	161.4	127.1	132.7	226.9	223.3	181.1	159.7*	156.5*	141.1	155.7
23	134.1	165.5*	161.4	121.9	133.4	225.1	196.0	188.5	162.3	156.0	139.0	163.1*
24	135.4	158.9	156.9	123.5	135.2*	208.5	182.8	188.3	161.9	159.2*	141.2	166.6
25	134.2	157.2	156.1	124.7*	138.0	206.1	167.5	188.2	172.5	153.3*	147.8	164.5
26	130.7	148.5	154.4	132.7	144.2	192.9	166.0	200.2	182.0	149.1	153.7	165.6
27	137.3*	146.2*	150.7	144.4*	148.7*	205.4	162.7	187.9	195.1*	149.4	158.5	159.1*
28	107.7*	147.8	148.4*	154.1	164.1	209.6	163.6	188.6	192.1*	149.2	159.1	158.1
29	116.2	148.1	149.8	162.2	166.2	209.3		191.4	185.7	150.2	166.9	156.7
30	124.1	142.6	146.5	167.8	181.7	194.1*		186.6	185.2*	158.4	176.7*	160.3
31	133.9*		144.0		185.1	193.7		201.4*		174.9		152.4
MEAN	116.9	159.6	157.1	148.2	170.0	196.5	199.1	184.0	175.0	168.9	186.0	171.4

* adjusted for burst
A = interpolated data point

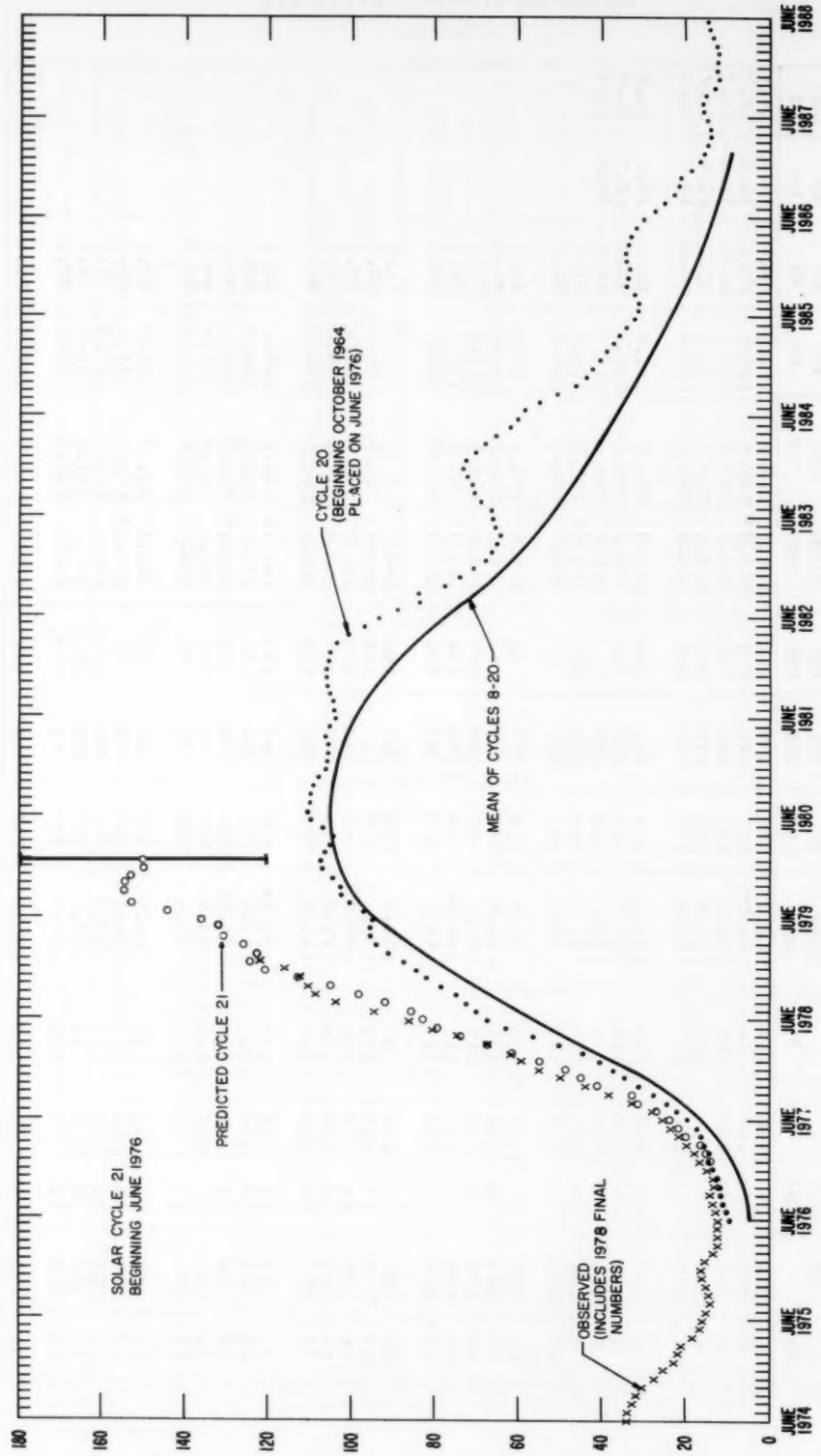
DAILY SOLAR INDICES

JULY 1979

JUL 1979	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	182	24	158	136	180.2	585	399	201	186.3	189.5	101.6	78.7	34.8	18.4
2	183	25	168	154	194.3*	611	412	229	200.9*	219.8	115.4	82.1	36.6	13.7
3	184	26	205	180	206.4	611	404	224	213.4	217.3	120.3	90.8	39.9	17.2
4	185	27	219	200	210.9	611	416	229	218.1	223.6	124.0	92.2	40.9	22.7
5	186	1	232	213	197.8	597	409	208	204.5	202.0	121.0	85.4	50.5	14.2
6	187	2	249	189	204.4	603	421	216	211.3	211.3	121.4	86.6	37.6	14.2
7	188	3	223	186	200.4	601	402	211	207.2	206.1	118.8	92.9	42.7	15.8
8	189	4	219	171	199.9	600	405	213	206.7	205.1	109.7	84.3	32.8	15.5
9	190	5	191	156	191.4*	599	405	209	197.9*	197.2	108.5	87.7		
10	191	6	163	137	179.8	604	393	202	185.9	184.1	102.6	82.3		
11	192	7	155	129	172.7	608	377	196	178.6	173.7	97.5	80.0		
12	193	8	145	134	164.7	595	365	182	170.1	162.7	106.8	74.5		
13	194	9	142	115	156.2	581	368	175	161.4	158.1	110.0	72.0		
14	195	10	127	111	149.8*	569	358	171	154.7*	153.0	106.0	70.0		
15	196	11	121	109	146.3	573	349	166	151.1	145.0	103.7	70.0		
16	197	12	114	88	139.0	569	345	162	143.6	137.6	97.9	71.2		
17	198	13	109	105	138.1	577	347	161	142.7	136.5	98.4	68.5		
18	199	14	109	116	136.7	565	342	159	141.2	136.5	100.8	73.0		
19	200	15	135	116	139.0	589	355	167	143.6	139.8	99.4	75.0		
20	201	16	158	148	141.9	577	351	169	146.6	143.7	104.3	85.0		
21	202	17	151	144	139.2*	576	347	173	143.7*	145.8	105.2	90.0		
22	203	18	152	141	150.9	576	364	181	155.7	148.6	109.4	89.0		
23	204	19	154	140	158.0*	584	358	182	163.1*	160.2	108.5	95.0		
24	205	20	143	146	163.4	599	379	202	168.6	163.9	117.9	84.5		
25	206	21	144	134	159.4	569	369	184	164.5	153.5	111.9	79.9		
26	207	22	142	135	160.5	561	383	188	165.6	161.7	115.6	87.4		
27	208	23	146	122	154.3*	568	355	176	159.1*	156.3	118.1	85.9		
28	209	24	132	124	153.3	560	354	181	158.1	156.5	115.3	75.3		
29	210	25	148	118	152.0	557	359	161	156.7	152.8	104.2	78.8		
30	211	26	150	136	155.5	568	361	175	160.3	157.0	108.6	79.6		
31	212	27	144	122	148.0	558	356	170	152.4	146.7	105.0	80.4		
MEAN			159.6	140.5	165.9	584	374	188	171.4	169.4	109.3	81.5	39.5	16.6

* Adjusted for burst.

Note: Data gaps in AFGL Sagamore Hill are due to equipment problems.



OBSERVED AND PREDICTED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 21

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1976	15.2	13.2	12.2	12.6	12.5	12.2	12.9	14.0	14.3	13.4	13.5	14.8
1977	16.7	18.1	20.0	22.2	24.2	26.3	29.0	33.4	39.1	45.6	51.9	56.9
1978	61.3	64.5	69.6	76.9	83.2	89.3	97.4	104.0	108.4	111.0	113.3	116.7
1979	122.8	127.2	131.6	134.6	137.3	141.8	146.2	149.2	151.2	152.4	152.7*	152.2
		(3)	(7)	(12)	(16)	(18)	(20)	(22)	(24)	(25)	(27)	(29)
1980	150.7	149.2	148.4	148.6	147.8	144.6	141.0	138.1	136.3	135.2	133.8	132.5
	(30)	(31)	(30)	(31)	(33)	(36)	(39)	(41)	(41)	(42)	(44)	(47)
1981	132.3	131.8	129.4	126.4	123.8	121.2	120.0	119.7	118.9	117.5	115.1	112.1
	(49)	(49)	(47)	(46)	(47)	(46)	(45)	(44)	(44)	(44)	(42)	(40)
1982	109.0	105.8	103.4	101.6	99.4	97.1	93.4	88.9	84.8	80.3	77.0	73.5
	(38)	(37)	(36)	(34)	(32)	(30)	(28)	(26)	(25)	(22)	(21)	(21)
1983	69.4	66.4	64.4	62.3	60.1	57.7	55.6	53.8	52.1	50.8	50.0	49.1
	(20)	(21)	(21)	(22)	(22)	(23)	(24)	(26)	(27)	(29)	(30)	(31)
1984	47.9	46.0	43.2	39.9	37.4	36.2	35.3	33.8	32.3	31.1	29.8	28.3
	(31)	(30)	(29)	(29)	(29)	(31)	(31)	(31)	(30)	(29)	(27)	(27)
1985	27.1	26.3	25.5	25.0	24.3	23.4	22.6	21.8	21.0	20.2	19.2	18.6
	(27)	(26)	(26)	(26)	(26)	(24)	(23)	(22)	(22)	(23)	(24)	(24)
1986	18.2	17.4	16.7	15.7	14.5	13.3	12.4	11.8	11.6	11.4	11.2	11.3
	(24)	(24)	(24)	(23)	(22)	(20)	(19)	(19)	(17)	(16)	(15)	(13)
1987	11.6	12.2	13.1	14.1	15.2	16.3	17.4					
	(12)	(11)	(11)	(12)	(13)	(13)	(14)					

The table gives observed Zürich smoothed sunspot numbers for Cycle 21 up to the one calculated from the latest observed data, marked by a vertical bar. They are based on final Zürich numbers through 1978 and provisional Zürich numbers thereafter. Some of these data after the June 1976 value will change slightly when final data for 1979 are received. The numbers after the vertical bar are predictions by the McNish-Lincoln method (see *Explanation of Data Reports*, February 1978). Shown in parentheses are the corresponding absolute values of the 90% confidence interval, an indication of the uncertainty above and below the predicted number.

The McNish-Lincoln method is very sensitive to the identification of a minimum epoch. In SGD 390-401 issues, the Cycle 21 predictions were based on March 1976 as the minimum epoch. Latest studies, including one published by Waldmeier, show that June 1976 is the more appropriate epoch of minimum. Thus, we have adopted a June 1976 mimimum.

*Prediction of Sunspot Maximum -- The McNish-Lincoln prediction method is recommended for predictions up to only one year ahead. From that point, the predictions regress rapidly towards the mean value. Combining this McNish-Lincoln prediction of sunspot maximum with the Ohl method (as done by Sargent, see *Explanation of Data Reports*, February 1979) indicates that the most probable value for sunspot maximum is 153 ± 27.

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
HOLL	01	0046	0058	0110	N18	E41	.681		4.1	24	SB	3	C		53		U F
MANI	01	0659E	0701	0715D	S15	E58	.867		5.6	16D	SF	3	C		40		F
MANI	01	0745E	J745U	0757	S14	E58	.865		5.7	12D	SF	3	C		30		
ISTA	01	0750E		0800	S13	E57	.855		5.6	10D	SF		V				D
ISTA	01	0750E		0830	N23	E90	1.000		8.1	40D	SF		V				AE
ISTA	01	0755		0835	N10	E90	1.000		8.1	40	SB		V				AEK
HOLL	01	1748	1749	1759	S15	E53	.823		5.7	11	SB	3	C		46		F
HOLL	01	1825	1830	1834	N18	E32	.571		4.2	9	SB	3	C		19		F
HOLL	01	1829	1850	1851	S14	E52	.811		5.7	22	SB	3	C		32		
HOLL	01	1919	1921	1935	S27	E57	.887		6.1	16	SB	3	C		53		FDE
HOLL	01	2007	2012	2019	N11	E80	.984		7.8	12	SN	3	C		0		
HOLL	01	2026	2031	2054	S27	E55	.873		6.0	28	SB	3	C		79		F
PALE	01	2030	2030	2040	S28	E55	.876		6.0	10	SN	3	C		26		DE
HOLL	01	2101	2101	2115	N18	E30	.546		4.1	14	SB	3	C		42		DE
PALE	01	2102	2102	2115	N19	E28	.527		4.0	13	SB	3	C		39		DE
PALE	01	2146	2146	2210	N19	E28	.527		4.0	24	SN	3	C		22		DE
MANI	01	2307E	2307U	2312	N14	W12	.280		1.1	5D	SB	2	C		60		
PALE	01	2307E	2308U	2315D	N12	W12	.259		1.1	8D	SB	3	C		61		DE
PALE	02	0314	0314	0321	N14	W15	.317		1.0	7	SN	3	C		33		DE
MONT	02	0859	0902	0916	N16	W19	.387		30.9	17	SN		C	0902	50		H
ATHN	02	0900	0902	0918	N15	W18	.366		1.0	18	SB	3	C		64		DE
MANI	02	0900	0902	0910	N16	W15	.337		1.3	10	SB	3	V		100		
MANI	02	0903E	0903U	0911	N16	W17	.362		1.1	8D	SN	3	P		100	1.1	
MCMA	02	1845E		1955	S28	E42	.776	16112	5.3	70D	1B		P	1903	125	2.1	E
PALE	02	1859	1902	1929	S29	E43	.789		6.0	30	SB	3	C		135		H F
RAMY	02	1912	1912	1919D	S29	E41	.773	16112	5.9	7D	1B	3	C		235		F
HOLL	02	1946	1955	2004	N14	W26	.469		30.9	18	SN	3	C		34		F
HOLL	02	2010	2023	2037	N 9	E66	.912		7.8	27	SB	3	C		46		F
MCMA	02	2016E	2021	2055	N10	E65	.905	16122	7.7	45D	SN		C	2021	80	1.9	E
MCMA	02	2035E		2047D	N16	W26	.480	16104	30.9	12D	SF		P	2042	30	.4	D
BIGB	02	2149	2153	2209	S10	E00	.224		2.9	20	SF	2	C	2153	100	1.0	
HOLL	02	2150	2153	2157	N11	E72	.950		8.3	7	SB	3	C		45		
RAMY	03	1221	1224	1227D	N 9	E57	.838		7.8	6D	SB	3	C		134		F
PALE	03	1819	1823	1840	N17	E 2	.243		3.9	21	SN	3	C		52		DE F
PALE	03	1914E	1914U	1917	N17	E 2	.243		4.0	3D	SN	3	C		99		DE F
PALE	03	1958	2003	2019	N 5	W 1	.038		3.8	21	SN	3	C		51		DE F
PALE	03	2042	2045	2108	N17	E 1	.241		3.9	26	SN	3	C		81		DE F
PALE	03	2209	2210	2216	N14	W 2	.193		3.8	7	SN	3	C		79		U H
PALE	03	2232	2232	2259	N 7	E55	.816		8.1	27	SN	3	C		21		
PALE	03	2304	2309U	2333	N 3	W 2	.035		3.8	29	SN	3	C		158		F
HOLL	04	0006	0007	0022	N 9	E51	.777		7.8	16	SN	3	C		31		
PALE	04	0421	0421	0431	N 7	E50	.765		7.9	10	SN	3	C		43		FDE
ISTA	04	0645E		0825	S14	E83	.995		10.5	100D	SN		V				OK
MONT	04	0654E	0701	0711	S16	E86	.999		10.7	17D	SF		C	0701	40		D
MONT	04	0755	0819	0841	N18	W03	.261		4.1	46	SN		C	0819	110		E
ISTA	04	0758		0815	N17	W01	.239		4.3	17	SN		V				E
MONT	04	0810	0818	0822	S16	E86	.999		10.8	12	SF		C	0818	40		D
ISTA	04	0830	0855	0930	N09	E50	.766		8.1	60	SB		V				F
ATHN	04	0830	0850	0922	N 7	E65	.905	16123	9.2	52	1B	4	C		143		
MONT	04	0834	0855	0958	N08	E47	.731		7.9	84	SN		C	0855	150		
MONT	04	0947	0958	1041	N16	W42	.685	16104	1.3	54	1N		C	0958	250		
RAMY	04	1134E	1137	1140D	S28	E79	.990		10.4	6D	SB	3	V		60		
MCMA	04	1343	1344	1347	N17	E47	.745	16122	8.1	4	SF		C	1344	40	.6	D
MCMA	04	1349	1358	1420	N10	E46	.721	16122	8.0	31	SN		C	1358	25	.4	D
MCMA	04	1411	1412	1427	N16	W08	.260	16117	4.0	16	SN		C	1412	40	.4	E
MCMA	04	1412	1414	1447	N13	W23	.419	16108	2.9	35	SF		C	1414	60	.7	E
MCMA	04	1441	1443	1505	N10	E44	.697	16122	7.9	24	SB		C	1443	60	.9	E
RAMY	04	1441	1443	1445D	N11	E44	.698		7.9	4D	SB	3	V		68		
HOLL	04	1442	1445	1506	N11	E44	.698		7.9	24	SB	3	C		79		DE
MCMA	04	1606	1609	1622	N14	W50	.772	16104	30.9	16	SN		C	1609	50	.8	DH
MCMA	04	1635	1639	1650	N14	W50	.772	16104	30.9	15	SN		C	1639	40	.7	E
MCMA	04	1639	1644	1659	N09	E44	.696	16122	8.0	20	SN		C	1644	30	.4	E
MCMA	04	1701	1715	1730	S28	E16	.570	16112	5.9	29	SN		C	1715	60	.7	E
MCMA	04	1712	1745	1902	N16	W13	.311	16117	3.7	110	SN		C	1745	125	1.4	EF
MCMA	04	1750	1753	1756D	S29	E76	.983	16125	10.4	6D	SN		C	1753	20	.9	D
MCMA	04	1903	1942	2120D	N13	E35	.587	16122	7.4	137D	2B		C	1942	500	6.3	FILY
RAMY	04	1905	1920	1922D	N11	E39	.635	16122	7.7	17D	2B	3	V		482		F
PALE	04	1907	1923	2059	N10	E33	.551	16119	7.3	112	1B	3	C		270		FDE
MCMA	04	1937	1942	2001	S31	E71	.968	16125	10.1	24	SB		C	1942	40	1.6	E

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
PALE	04	1937E	1943U	1955	S28	E70	.961		10.1	180	SB	3	C		35		F
RAMY	04	1940	1943	1945D	S27	E69	.956		10.0	50	SB	3	V		58		
PALE	04	2216	2217	2222	N20	E65	.910		9.8	6	SN	3	C		23		U F
MONT	05	0651	0656	0706D	S30	E14	.586	16112	6.3	150	1N		C	0656	250		
MONT	05	0757E	0757	0810	N19	W14	.356		4.3	130	SF		C	0757	50		E
MONT	05	0928	0931	1018	S14	E02	.299		5.5	50	SN		C	0931	100		
MONT	05	0930	0931	0941	S17	W14	.415		4.3	11	SF		C	0931	50		E
MCMA	05	1428	1432	1436	S29	E66	.945	16125	10.6	8	SF		C	1432	30	.3	E
MCMA	05	1758E	1803	1820	S14	W03	.301	16118	5.5	220	SB		C	1803	70	.8	E
PALE	05	1801	1802	1817	S14	W 3	.301		5.5	16	SB	3	C		65		F
MCMA	05	1834	1835	1855	S29	E62	.924	16125	10.4	21	SN		C	1835	25	.7	D
PALE	05	1834	1834	1840	S28	E58	.898		10.1	6	SN	3	C		29		
HOLL	05	1836	1838	1857	S27	E61	.914		10.4	21	SB	3	C		27		F
HOLL	05	1952	1954	2032	S28	E59	.904		10.3	40	SB	3	C		52		F
MCMA	05	1952	1957	2020	S29	E60	.913	16125	10.3	28	SN		C	1957	50	1.3	E
BIGB	05	1953	1954	2007	S25	E60	.904	16124	10.3	14	1N	2	C	1954	140	2.9	
HOLL	05	2025	2036	2109	N22	E52	.806	16123	9.8	44	1B	3	C		163		F
MCMA	05	2027	2036	2103D	N21	E53	.814	16127	9.8	36D	SN		C	2036	100	1.7	E
PALE	05	2116	2116	2124D	N16	W26	.478		3.9	8D	SN	3	C		19		F
HOLL	05	2117	2117	2127	N16	W26	.478		3.9	10	SB	3	C		24		F
HOLL	05	2129	2131	2140	N16	W42	.685		2.7	11	SB	3	C		43		
HOLL	05	2144	2154	2303	N15	W33	.567		3.4	79	SB	3	C		115		U F
HOLL	05	2144	2203	2303	N15	W33	.567		3.4	79	SN	3	C		61		U F
BIGB	05	2149	2152	2216	N13	W33	.560		3.4	27	SN	2	P	2152	150	1.8	
BIGB	05	2213	2223	2258	N16	W37	.623		3.2	45	SB	2	C	2223	130	1.7	
HOLL	05	2221	2229	2236	S26	E55	.872		10.1	15	SB	3	C		82		
PALE	05	2235	2235	2244	N16	W28	.505		3.8	9	SN	3	C		42		F
PALE	05	2245	2245	2248	N16	W28	.505		3.8	3	SN	3	C		32		F
HOLL	05	2321	2323	2333	N15	W65	.906		1.1	12	SN	3	C		14		
BIGB	06	0007	0017	0045	S17	W04	.355		5.7	38	SN	2	C	0017	90	.9	
HOLL	06	0007	0024	0031	S16	W 4	.339		5.7	24	SB	3	C		34		F
HOLL	06	0025	0028	0037	N15	W68	.926		30.9	12	SB	3	C		24		
BIGB	06	0025	0029	0037	N15	W68	.926		30.9	12	SN	2	C	0029	60		
HOLL	06	0132	0134	0200D	N18	W27	.503		4.0	28D	SB	2	C		96		F
MCMA	06	1401E	1401	1406	N13	E16	.317	16122	7.8	5D	SF		C	1401	50	.5	EL
MCMA	06	1432	1437	1503	N22	E45	.736	16123	10.0	31	SN		C	1437	40	.6	E
HOLL	06	1434	1441	1455	N22	E42	.704		9.8	21	SB	3	C		30		F
BIGB	06	1459	1500	1510	S31	W05	.570		6.2	11	SN	2	C	1500	60	.6	
MCMA	06	1604	1614	1630D	N18	W36	.618	16117	4.0	26D	SF		C	1614	50	.7	E
MCMA	06	1605E	1618	1643D	S15	W15	.401	16118	5.5	38D	SN		C	1618	60	.7	E
HOLL	06	1605	1606	1611	N18	W37	.630		3.9	6	SN	3	C		20		
MCMA	06	1642	1647	1656D	N09	E13	.243	16122	7.7	14D	SF		C	1647	20	.2	D
BIGB	06	1724	1725	1728	N12	W77	.973		31.0	4	SF	2	C	1725	40		A
HOLL	06	1817	1818	1825	N22	E40	.682		9.8	8	SN	3	C		37		
MCMA	06	1843	1844	1856	S18	W13	.422	16118	5.8	13	SN		C	1844	50	.6	E
HOLL	06	2019	2031U	2050	N22	E41	.693		9.9	31	SB	3	C		85		
BIGB	06	2121	2123	2131	N15	W80	.983		30.9	10	SF	2	C	2123	40		A
HOLL	06	2142	2143	2207	N12	E13	.267		7.9	25	SN	3	C		29		
HOLL	06	2214	2214	2229D	S27	E42	.773		10.1	15D	SN	3	C		26		F
BUCA	07	0745		0811D	S28	E42	.780		10.5	26D	SN		C	0800	107	1.7	E
ISTA	07	0802E		0840D	S30	E46	.822		10.8	38D	SB		V				F
MONT	07	0816E	0819	0918	S29	E43	.793	16125	10.6	62D	1B		C	0819	300		H
MCMA	07	1122	1124	1130	N28	E58	.869	16127	11.8	8	SN		C	1124	25	.5	DH
RAMY	07	1123	1123	1129	N29	E52	.824		11.4	6	SB	3	C		30		
MCMA	07	1136	1142	1150	S16	E38	.673	16124	10.3	14	SN		C	1142	50	.7	E
RAMY	07	1257	1300	1313	N 4	W48	.742		3.9	16	SB	3	C		145		
MCMA	07	1257	1259	1310	N05	W48	.742	16111	3.9	13	SB		C	1259	50	.8	D
HOLL	07	1531	1532	1544	S27	E38	.740		10.5	13	SN	3	C		21		
HOLL	07	1531	1534	1541	S14	W28	.542		5.5	10	SN	3	C		22		
HOLL	07	1942	1951	2006	S23	W41	.743		4.7	24	SB	3	C		39		F
PALE	07	2201	2205	2220	S17	E30	.588		10.2	19	SB	3	C		67		DE F
BIGB	07	2202	2209	2221	S16	E31	.592		10.2	19	SB	2	C	2209	100	1.2	
BIGB	07	2220	2235	2300	N10	W12	.235		7.0	40	SN	2	C	2235	70	1.2	
PALE	07	2229	2230	2235	N 8	W 9	.174		7.3	6	SN	3	C		47		F
PALE	08	0009	0033	0042	S17	E30	.589		10.3	33	SN	3	C		44		DE
BIGB	08	0010	0017	0101E	S15	E30	.574	16124	10.3	51D	1B	2	P	0017	210	2.5	
PALE	08	0105	0105	0108	N20	E22	.454		9.7	3	SN	3	C		22		DE
ISTA	08	0655		0710	S15	E28	.550		10.4	15	SN		V				E

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
ISTA	08	0832		0840	N22	E18	.428		9.7	8	SF		V				D
MCMA	08	1136E		1230D	N18	E15	.351	16123	9.6	540	SN		C	1155	125	1.4	E
MCMA	08	1340	1341	1348	N28	E43	.739	16127	11.8	8	SN		C	1341	30	.4	E
HOLL	08	1344E	1344U	1429	N29	E40	.715		11.6	45D	SB	3	C		184		UDE
HOLL	08	1428	1433	1531	S28	E21	.609		10.2	63	SB	3	C		167		UDE
MCMA	08	1429	1450	1530D	S30	E27	.674	16125	10.6	61D	SN		C	1450	100	1.4	E
RAMY	08	1431E	1437U	1532	S28	E25	.639		10.5	61D	SB	2	C		171		U F
HOLL	08	1531	1533	1543	N29	E39	.705		11.6	12	SB	3	C		41		F
RAMY	08	1532	1532	1537	N28	E40	.710		11.6	5	SN	2	C		25		
BIGB	08	1641	1647	1705	S29	W50	.848		4.9	19	SN	1	P	1647	100	1.6	
RAMY	08	1646	1648	1702	S27	W52	.855		4.8	16	SN	2	C		45		
MCMA	08	1717	1718	1725D	N11	W82	.989	16126	2.6	8D	SF		C	1718			E
HOLL	08	1717	1718	1747	N10	W80	.983		2.7	30	SB	3	C		0		F
PALE	08	1722	1756	1803	N27	E36	.664		11.4	41	SN	3	C		24		F
MCMA	08	1723		1749D	N23	E16	.420	16127	9.9	26D	SF		P	1725	25	.3	E
HOLL	08	1726	1727	1737	N22	E15	.398		9.9	11	SN	3	C		26		
RAMY	08	1729	1734	1739	N 9	W82	.989		2.6	10	SN	2	C		19		
RAMY	08	1729	1729	1740	N23	E17	.429		10.0	11	SN	3	C		40		
HOLL	08	1738	1759	1810	N29	E38	.696		11.6	32	SB	3	C		39		
RAMY	08	1745	1747	1806	N29	E38	.696		11.6	21	SN	2	C		23		
HOLL	08	1833	1836	1844	N29	E37	.686		11.5	11	SB	3	C		24		
PALE	08	1833	1835	1842	N27	E35	.653		11.4	9	SN	3	C		18		F
BIGB	08	1849	1853	1911	N24	W18	.451		7.4	22	SN	1	P	1853	130	1.4	
HOLL	08	1850	1854	1908	N23	W17	.429		7.5	18	SN	3	C		82		F
BIGB	08	1918	1921	1954	S33	W34	.752		6.3	36	SB	2	C	1921	120	1.5	G
HOLL	08	1926	1930	1942	N23	W17	.429		7.5	16	SN	3	C		26		
HOLL	08	1949	1953	2004	S25	W55	.870		4.7	15	SN	3	C		22		
PALE	08	2008	2030	2112	N27	E35	.653	16127	11.5	64	1B	3	C		335		DE F
HOLL	08	2012	2030	2116	N29	E38	.696	16127	11.7	64	1B	3	C		348		ZDE
RAMY	08	2012	2028	2101D	N29	E38	.696	16127	11.7	49D	1B	3	C		214		
RAMY	08	2012	2023	2047	S24	W56	.875		4.6	35	SB	3	C		38		
BIGB	08	2027	2029	2115	N31	E38	.706	16127	11.7	48	1B	2	P	2029	390	3.8	GK
BIGB	08	2151	2153	2200	N29	E33	.647		11.4	9	SB	2	P	2153	90	1.1	GK
PALE	08	2152E	2153U	2201D	N27	E34	.643		11.5	9D	SN	3	C		32		DE
HOLL	08	2152	2152	2208	N30	E33	.654		11.4	16	SB	3	C		19		
BIGB	08	2200	2222	2313	N09	W12	.226		8.0	73	SB	2	P	2222	170	1.8	
HOLL	08	2201	2214	2258	N 8	W13	.236		7.9	57	SB	3	C		143		F
PALE	08	2201E	2209U	2242D	N 9	W13	.242		7.9	41D	SN	3	C		79		FDE
PALE	08	2218E	2224U	2236D	N27	E33	.633		11.4	18D	SB	3	C		96		DE
HOLL	08	2220	2224	2228	N29	E37	.686		11.7	8	SB	3	C		43		DE
BIGB	08	2222	2223	2227	N29	E37	.686		11.7	5	SB	2	C	2223	120	1.5	G
BIGB	08	2252	2255	2329	N11	W14	.271		7.9	37	SB	2	C	2255	50	.5	
PALE	09	0033E	0035U	0100D	N27	E32	.622		11.4	27D	SN	3	C		46		DE
BIGB	09	0036	0038	0059E	N22	E10	.354		9.8	23D	SN	1	P	0038	180	1.8	
MONT	09	0914	0918	0940	N19	E05	.277		9.8	26	SN		C	0918	110		
RAMY	09	1347	1347U	1404D	N12	W23	.410		7.8	17D	SN	2	C		27		
HOLL	09	1404E	1404U	1416	N11	W22	.391		7.9	12D	SB	3	C		26		
HOLL	09	1450	1452	1458	N11	W17	.315		8.3	8	SN	3	C		20		F
BIGB	09	1547	1549	1613	N23	E04	.337		10.0	26	SN	2	C	1549	90	.9	
BIGB	09	1630	1639	1657	N07	W44	.694		6.4	27	SF	2	C	1639	60	.9	
HOLL	09	1844	1935	2103	S29	E11	.565	16125	10.6	139	1N	3	C		266		U F
HOLL	09	1844	1912	2103	S29	E11	.565	16125	10.6	139	1B	3	C		234		U F
PALE	09	1850E	1912U	1915D	S30	E15	.597		10.9	25D	SB	3	C		63		U F
PALE	09	1850E	1902U	1915D	S30	E15	.597		10.9	25D	SF	3	C		121		U F
RAMY	09	1929	1941	2045D	S30	E13	.587		10.8	76D	SN	2	C		121		U
BIGB	09	1930	1936	2039	S30	E15	.597		10.9	69	SN	3	C	1936	180	1.9	
HOLL	09	2023	2024	2028	N22	W37	.646		7.1	5	SB	3	C		39		
HOLL	09	2032	2037	2114	N23	W 1	.331		9.8	42	SB	3	C		105		F
RAMY	09	2033	2036	2045D	N22	W 0	.314		9.9	12D	SB	2	C		100		F
BIGB	09	2038	2039	2110	N22	W01	.314	16123	9.8	32	1N	3	C	2039	200	2.1	
HOLL	09	2050	2051	2058	S23	W67	.943		4.8	8	SN	3	C		16		
BIGB	09	2115	2117	2146	N18	W22	.436	16120	8.2	31	1N	3	C	2117	250	2.8	
HOLL	09	2119	2120	2141	N18	W19	.398	16123	8.5	22	1B	3	C		270		DE
HOLL	09	2124	2125	2131	N29	E24	.560		11.7	7	SN	3	C		24		
HOLL	09	2155	2157	2231	N22	W 0	.314		9.9	36	SB	3	C		57		
BIGB	09	2330	2331	2340	N32	W28	.624		7.9	10	SN	3	C	2331	70	.8	
MANI	09	2330E	2330U	2338D	N12	W28	.484		7.9	8D	SB	3	V		50		F
PALE	09	2333E	2334U	2338D	N13	W29	.502		7.8	5D	SN	3	C		21		
BIGB	10	0001	0003	0006	S30	E05	.561		10.4	5	SN	3	C	0003	30	.3	
PALE	10	0246	0248	0256	N13	W29	.501		7.9	10	SN	3	C		20		F

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
ISTA	10	0626E		0645	N20	W06	.296		9.8	25D	SB		V				E
MONT	10	0949	0953	1008	N23	W07	.348		9.9	19	SN		C	0953	110		
RAMY	10	1304	1314	1346	N25	W 8	.383		9.9	42	SB	3	C		112		F
MCMA	10	1308E		1335	N23	W09	.360	16127	9.9	27D	SN		P	1310	50	.5	BE
HOLL	10	1310	1313	1318	N22	W 9	.345		9.9	8	SB	3	C		38		
BIGB	10	1448	1451	1503	N22	W09	.345		9.9	15	SN	3	C	1451	70	.7	E
HOLL	10	1517	1521	1525	N23	W11	.374		9.8	8	SN	3	C		25		
HOLL	10	1729	1741	1759	N23	W43	.716		7.5	30	SN	3	C		22		
HOLL	10	1944	1946	1953	N26	E11	.416		11.6	9	SN	3	C		42		
MCMA	10	1958E	2002	2008	N23	W11	.374	16127	10.0	10D	SF		C	2002	40	.4	E
HOLL	10	2036	2039	2053	N22	W12	.368		10.0	17	SB	3	C		61		F
MCMA	10	2037E		2055	N23	W11	.374	16127	10.0	18D	SN		C	2039	50	.5	E
HOLL	10	2123	2129	2157	N23	W12	.382		10.0	34	SB	3	C		90		F
HOLL	10	2245	2250	2257	S16	W 9	.370		10.3	12	SN	3	C		21		
HOLL	10	2308	2310	2328	N22	W15	.395		9.8	20	SB	3	C		58		F
BIGB	10	2308	2313	2318	N23	W13	.390		10.0	10	SN	3	C	2313	180	1.9	
HOLL	11	0127	0140	0150D	N22	W15	.394		9.9	23D	SB	2	C		79		F
HOLL	11	0127	0127	0150D	N22	W15	.394		9.9	23D	SF	2	C		28		F
HOLL	11	0145	0148	0150D	N27	E 6	.403		11.5	5D	SN	2	C		54		F
MONT	11	1028	1029	1035	N22	W21	.458		9.9	7	SN		C	1029	80		E
RAMY	11	1405	1425	1433	S27	E88	1.000		18.2	28	SN	3	C		0		
RAMY	11	1436	1438	1508	N11	W23	.405		9.9	32	SN	3	C		23		
BIGB	11	1516	1518	1530	N06	E10	.177		12.4	14	SN	2	C	1518	60	.7	G
HOLL	11	1831	1833	1855	N29	W 1	.424		11.7	24	SN	3	C		75		F
BIGB	11	2005	2015	2026	N19	W60	.870		7.3	21	SN	1	C	2015	30	.6	
HOLL	11	2014	2014	2021	N23	W57	.850		7.6	7	SN	3	C		19		
BIGB	11	2015	2016	2019	N18	W30	.538		9.6	4	SF	2	C	2016	210	2.5	
BIGB	11	2146	2148	2152	S01	W86	.998		5.5	6	SN	3	C	2148	60		A
BIGB	11	2309	2314	2348	N12	W31	.526		9.6	39	SB	3	C	2314	130	1.6	
HOLL	11	2311	2317	2341	N12	W31	.526		9.6	30	SB	2	C		98		F
PALE	11	2315	2315	2320	N12	W31	.526		9.6	5	SN	3	C		33		F
HOLL	11	2354	2359	0008	N18	W47	.744		8.5	14	SN	2	C		34		
HOLL	11	2358	0000	0012	N 7	W77	.973		6.2	14	SB	2	C		0		F
HOLL	12	0021	0023	0106	N20	W28	.524		9.9	45	SB	2	C		104		F
PALE	12	0022	0022	0028	N21	W33	.592		9.5	6	SB	3	C		43		F
HOLL	12	0022	0023	0126	N12	W31	.525		9.7	58	SB	2	C		66		F
BIGB	12	0022	0024	0059E	N20	W28	.524	16127	9.9	37D	SB	3	C	0024	200	2.3	
MANI	12	0030E	0032	0035	N20	W26	.499		10.1	5D	SB	3	V		100		Z
PALE	12	0031	0033	0035	N21	W33	.592		9.5	4	SN	3	C		39		F
HOLL	12	0119	0120	0130	N 7	W78	.977		6.2	11	SN	2	C		0		
PALE	12	0142	0144	0151	N 5	W77	.973		6.3	9	SN	3	C		0		F
PALE	12	0155	0156	0208	N 6	W78	.977		6.2	13	SN	3	C		0		F
PALE	12	0330	0331	0339	N 5	W80	.984		6.1	9	SN	3	C		25		
PALE	12	0406	0407	0412	S26	E78	.988		18.0	6	SN	3	C		0		
ISTA	12	0710		0720	N07	W78	.977		6.4	10	SN		V				D
ISTA	12	0720		0722	N16	W31	.541		10.0	2	SN		V				D
BIGB	12	1445	1448	1454	N06	W87	.998		6.1	9	SN	2	C	1448	30		A
BIGB	12	1612	1618	1635	S25	E69	.956		17.9	23	SF	2	C	1618	50		
MCMA	12	1613	1618	1629D	S28	E67	.950	16137	17.7	16D	SN		C	1618	30	.9	E
MCMA	12	1636		1639D	N23	W38	.660	16123	9.8	3D	SF		C	1639	30	.4	E
MCMA	12	1745	1751	1758	S28	E65	.941	16137	17.6	13	SF		C	1751	30	.9	E
MCMA	12	1752	1803	1837D	N23	W40	.683	16123	9.7	45D	SF		C	1803	30	.4	D
BIGB	12	2106	2109	2120	N09	E14	.255		13.9	14	SN	2	C	2109	180	1.9	
HOLL	13	0113	0116	0136D	S25	E58	.894		17.4	23D	SB	3	C		83		U F
MANI	13	0117E	0118	0122	S25	E60	.907		17.6	5D	SN	3	V		80	1.3	
PALE	13	0118E	0118U	0140	S27	E65	.939	16144	17.9	22D	SB	3	C		147		F
PALE	13	0151	0151	0154	N13	E74	.959		18.6	3	SF	3	C		0		F
PALE	13	0322	0331	0412	N12	E14	.275		14.2	50	SN	3	C		151		U F
MCMA	13	1327	1331	1354	S31	E55	.891	16137	17.7	27	SF		C	1331	20	.5	E
MCMA	13	1427E	1430	1452	N20	W51	.789	16123	9.8	25D	SF		C	1430	60	1.0	E
HOLL	13	1654	1731	1745	N20	W52	.799		9.8	51	SB	3	C		24		
MCMA	13	1713E		1719D	N20	W51	.789	16123	9.9	6D	SF		P	1713	25	.4	E
HOLL	13	1714	1714	1721	N19	W51	.787		9.9	7	SB	3	C		20		
MCMA	13	1749E		1754D	N20	W51	.789	16123	9.9	5D	SF		P	1750	60	1.0	E
PALE	14	0316	0317	0326	S28	E45	.809		17.5	10	SN	2	C		84		FDE
ISTA	14	0725		0743	N17	W56	.832		10.1	18	SN		V				D
HOLL	14	1349	1350	1356	S26	E40	.756		17.6	7	SB	3	C		17		F
HOLL	14	1526	1531	1643	N19	W63	.892		9.9	77	SN	3	C		50		U

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HOLL	14	1526	1542	1643	N19	W63	.892		9.9	77	SB	3	C		39		U
RAMY	14	1635	1637	1700	N27	E57	.856		19.0	25	SN	3	C		15		
RAMY	14	1748	1754	1805	N18	W65	.906		9.9	17	SN	3	C		19		
PALE	14	1759	1807	1813	N17	W64	.898		9.9	14	SN	3	C		66		F
PALE	14	1833	1844	1846	N18	W65	.906		9.9	13	SN	3	C		34		F H
BIGB	14	1841	1843	1852	N28	E59	.873	16139	19.2	11	1N	3	C	1843	210	4.2	
PALE	14	1842	1843	1850	N29	E58	.867		19.1	8	SN	3	C		74		FDE
RAMY	14	1846	1851	1940	N18	W65	.906		9.9	54	SN	3	C		19		
PALE	14	1850	1851	1856	N21	W65	.908		9.9	6	SN	3	C		28		F
MCMA	14	1923E		1924D	N27	E58	.864	16139	19.2	10	SN		P	1923	30	.6	E
PALE	14	1928	1930	1931	N18	W66	.913		9.9	3	SN	3	C		21		F
RAMY	14	2113	2118	2124	N29	E56	.852		19.1	11	SB	3	C		30		
PALE	14	2115	2117	2123	N29	E57	.860		19.2	8	SB	3	C		34		FDE
PALE	14	2206	2214	2223	N18	W67	.919	16123	9.9	17	1N	3	C		209		FDE
HOLL	14	2206	2210	2238	N18	W71	.943	16121	9.6	32	1B	3	C		119		UDE
RAMY	14	2207	2208U	2208D	N17	W69	.932		9.7	10	SN	2	C		17		
MANI	14	2320E	2325U	2335D	S29	W37	.750		12.2	150	SN	2	V		100		
MANI	14	2320E	2325U	2335D	S29	E37	.750		17.7	150	SN	2	C		100		
PALE	15	0122E	0122U	0130D	N18	W70	.938		9.8	80	SN	3	C		44		DE
WEND	15	0652E		0720D	N19	W72	.949		9.9	28D	1N		C	0654	150		F
BIGB	15	1701E	1710	1715	N17	W79	.979		9.8	14D	SN	3	C	1710	30		K
BIGB	15	1722	1723	1735	N13	W85	.995		9.3	13	SN	3	C	1723	30		A
BIGB	15	1736	1736	1741	N16	W79	.979		9.8	5	SN	3	C	1738	40		K
MCMA	15	1737E	1745	1855	N18	W83	.990	16123	9.5	78D	SB		C	1745			D
RAMY	15	1744	1745	1753	N17	W74	.959		10.2	9	SB	3	C		0		
BIGB	15	1744	1746	1755	N16	W79	.979		9.8	11	SN	3	C	1746	40		K
BIGB	15	1830	1832	1847	N18	W80	.982		9.8	17	SN	3	C	1832	30		
BIGB	15	1947	1948	1953	N27	E49	.787		19.5	6	SF	3	C	1948	30	.5	
MCMA	15	1955E		2003D	N18	W83	.990	16123	9.6	8D	SF		C	1956			D
MCMA	15	2023	2031	2045	N21	W85	.994	16123	9.5	22	SN		C	2031			D
RAMY	15	2035E	2035U	2038	N18	W76	.968		10.2	3D	SN	2	C		22		
HOLL	15	2316	2327	0005	S28	E35	.728	16137	18.6	49	1B	3	C		199		Z U
PALE	15	2317E	2322U	2330D	S29	E36	.743		18.7	13D	SN	3	C		71		FDE
MANI	16	0043E	0043U	0050D	N16	W89	.999		9.4	10D	SN	3	V		0		
MONT	16	0730E	0730	0732	N18	W90	1.000		9.6	2D	SF		C	0730	50		
MCMA	16	1350	1351	1356	N28	E28	.582	16139	18.7	6	SF		C	1351	25	.3	E
MCMA	16	2049E		2058D	S30	W00	.565	16136	16.9	9D	SF		P	2055	60	.7	E
BIGB	16	2137	2140	2146	N27	E35	.647		19.5	9	SN	3	C	2140	50	.6	
ISTA	17	0632E		0640	N12	E90	1.000		24.0	8D	SB		V				A
ISTA	17	0655E		0702	N12	W46	.720		13.8	7D	SF		V				D
ISTA	17	0720E		0740	N09	W50	.764		13.6	20D	SN		V				D
ISTA	17	0735		0745	N11	W50	.765		13.6	10	SN		V				D
RAMY	17	1126	1127	1152	S25	W54	.867		13.4	26	SN	3	C		18		
PALE	17	1913	1917	1945	S10	E43	.710		21.0	32	SN	1	C		30		
MCMA	17	1930E		1947D	S08	E42	.691	16148	21.0	17D	SF		C	1930	40	.6	E
ISTA	18	0721		0728	S21	W40	.729		15.3	7	SN		V				D
MONT	18	0740	0744	0805	S06	E36	.608		21.0	25	SN		C	0744	100		
ISTA	18	0742		0758	S07	E37	.625		21.1	16	SN		V				EF
ISTA	18	0810		0814	S03	E46	.726		21.8	4	SF		V				E
MONT	18	1018	1020	1021	S29	W08	.566		17.8	3	SF		C	1020	60		E
BIGB	18	1717	1720	1739	N27	W28	.572		16.6	22	SF	3	C	1720	40	.5	G
MCMA	18	1815	1816	1818D	N22	W04	.306	16161	18.5	3D	SN		C	1816	30	.3	D
BIGB	18	1815	1816	1825	N21	W05	.294		18.4	10	SN	3	C	1816	30	.3	G
BIGB	18	1902	1906	1927	S14	W90	1.000		12.0	25	SN	3	P	1906	60		
ISTA	19	0710	0723	0736	S02	E37	.610		22.1	26	SB		V				E
MANI	19	0723E	0723U	0735D	S 4	E35	.588		21.9	12D	SN	3	V		30		
ISTA	19	0810		0816	S28	W23	.636		17.6	6	SB		V				E
MONT	19	0841	0846	0849	N28	W49	.788		15.7	8	SN		C	0846	110		
MONT	19	0940	0942	0947	S26	W25	.631		17.5	7	SF		C	0942	50		
MONT	19	1055	1056	1106	S03	E34	.571	16148	22.0	11	1B		C	1056	250		H
ATHN	19	1056E	1056U	1100D	S 3	E32	.543		21.9	4D	SB	4	C		143		RDE
MCMA	19	1332	1335	1348	S02	E17	.313	16148	20.8	16	SN		C	1335	40	.4	D
MCMA	19	1543E	1541	1548	S03	E29	.500	16148	21.8	8D	SN		C	1541	100	1.2	E
MCMA	19	1556	1558	1601D	S03	E29	.500	16148	21.8	5D	SB		C	1558	30	.4	EH
BIGB	19	1703	1704	1715	S01	E29	.493		21.9	12	SN	3	C	1704	30	.4	E
MCMA	19	1704E		1705D	S03	E29	.500	16148	21.9	1D	SN		P	1704	100	1.2	EH

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg	
PALE	19	1705E	1708	1713	S 3	E27	.470		21.7	8D	SB	3	C		96		F
PALE	19	1808	1809	1818	S 2	E29	.496		21.9	10	SB	3	C		38		DE H
MCMA	19	1815E		1815D	S03	E28	.485	16148	21.9		SN		P	1815	40	.5	E
PALE	19	1923	1930	1933	S 3	E27	.470		21.8	10	SB	3	C		59		F
MCMA	19	1926E		1930D	S03	E27	.470	16148	21.8	4D	SN		P	1930	30	.3	EH
PALE	19	2129	2129	2143D	N14	W27	.472		17.9	14D	SN	3	C		22		
PALE	19	2248E	2256U	2313D	S 4	E18	.342		21.3	25D	SN	3	C		38		DE H
RAMY	20	1250E	1305U	1313D	N13	W40	.647		17.5	23D	SN	2	C		81		
RAMY	20	1305E	1311U	1313D	N27	W49	.784		16.9	8D	SN	2	C		113		
PALE	20	1645	1650	1705	N27	W52	.811		16.8	20	SN	3	C		67		F
PALE	20	1658	1658	1703	N13	W40	.647		17.7	5	SN	3	C		24		F
PALE	20	1715	1716	1725	N14	W38	.623		17.9	10	SN	3	C		43		F
MCMA	20	1716E		1759D	N15	W41	.664	16161	17.6	43D	SN		P	1716	125	1.7	E
PALE	20	1826	1827	1836	N28	W53	.823		16.8	10	SB	3	C		34		F
MCMA	20	1827E		1835	N30	W53	.828	16160	16.8	8D	SN		P	1827	35	.7	E
PALE	20	1931	1947	1948	N28	W54	.831	16160	16.8	17	1B	3	C		135		F
PALE	20	1931	1947	2004	N26	W53	.818	16160	16.8	33	1B	3	C		135		FDE
PALE	20	1931	1940	1954	N14	W39	.636		17.9	23	SN	3	C		34		F
MCMA	20	1949E		1955D	N30	W53	.828	16160	16.9	6D	SB		C	1949	30	.6	E
MCMA	20	1949E		1955D	N15	W42	.676	16161	17.7	6D	SF		C	1949	40	.6	E
MCMA	20	2031E		2031D	N15	W44	.700	16161	17.6		SF		P	2031	30	.4	D
PALE	21	0228E	0228U	0228D	N14	W43	.686		17.9		SB	2	C		78		F
ISTA	21	0643		0705	N14	W48	.745		17.7	22	SN		V				E
BUCA	21	0645		0730	N15	W48	.746		17.7	45	SN		C	0648	85	1.3	
ISTA	21	0735		0755	S19	W12	.448		20.4	20	SF		V				E
ATHN	21	1035E	1037U	1043	N28	W60	.877		16.9	8D	SB	3	C		48		DE
MCMA	21	1235	1236	1245	S20	W18	.508	16155	20.2	10	SN		C	1236	35	.4	E
RAMY	21	1235	1237	1243	S19	W18	.496		20.2	8	SN	3	C		51		
MCMA	21	1320	1321	1325	N17	W49	.760	16161	17.9	5	SN		C	1321	50	.8	E
RAMY	21	1321	1335	1626	N14	W48	.745		18.0	185	SN	3	C		89		Z F
RAMY	21	1321	1354	1626	N14	W48	.745	16161	18.0	185	1B	3	C		168		Z F
RAMY	21	1324	1328	1334	S30	W50	.859		17.8	10	SN	3	C		20		
MCMA	21	1330	1410	1423	N16	W52	.790	16161	17.7	53	1B		C				
MCMA	21	1330	1351	1423D	N16	W52	.790	16161	17.7	53D	1B		C	1351	125	2.1	EKS
MCMA	21	1338	1339	1350	N32	E32	.648	16163	24.0	12	SN		C	1339	30	.4	E
MCMA	21	1343	1345	1405	N30	E05	.432	16156	21.9	22	SB		C	1345	50	.6	EL
RAMY	21	1344	1346	1357	N28	E 5	.401		21.9	13	SB	3	C		70		F
RAMY	21	1355	1359	1412	N27	W56	.845		17.4	17	SN	3	C		21		
MCMA	21	1503E	1511	1542D	N16	W52	.790	16161	17.7	39D	SN		C	1511	80	1.4	EK
BIGB	21	1548	1551	1602	N15	W56	.828		17.5	14	SN	3	C	1551	40	.7	
RAMY	21	1604	1606	1610	S29	W55	.889		17.5	6	SN	3	C		22		
RAMY	21	1604	1606	1615	N25	W65	.909		16.8	11	SN	3	C		12		
MCMA	21	1611E	1613	1617D	N30	E03	.427	16156	21.9	6D	SN		C	1613	30	.3	E
HOLL	21	1859	1900	1908	N15	W55	.819		17.7	9	SB	3	C		44		F
HOLL	21	2004	2011	2012D	N16	W59	.856	16161	17.4	8D	1B	3	C		187		U F
BIGB	21	2125	2134	2139	N15	W58	.847		17.5	14	SN	3	C	2134	80	1.6	
HOLL	21	2228	2229	2231	N15	W59	.856		17.5	3	SB	3	C		289		
ISTA	22	0600E		0710D	N14	W61	.872		17.7	70D	SN		V				EFB
ISTA	22	0600E		0615	N12	W48	.742		18.7	15D	SN		V				DB
RAMY	22	1333E	1445	1518	N13	W65	.903		17.7	105D	SB	3	C		37		F
RAMY	22	1336	1341	1342	N11	W51	.775		18.7	6	SN	3	C		17		
HOLL	22	1618	1633	1715	N14	W65	.903		17.8	57	SB	3	C		67		U
RAMY	22	1629	1633	1655	N13	W65	.903		17.8	26	SB	3	C		33		F H
HOLL	22	1732	1740	1756	N15	W70	.936		17.5	24	SB	2	C		55		F
RAMY	22	1739	1742	1755	N12	W65	.903		17.9	16	SB	3	C		24		F
MCMA	22	1743E		1810D	N15	W68	.924	16161	17.6	27D	SN		P	1810	40	1.0	E
RAMY	22	1800	1808	1828	N12	W65	.903		17.9	28	SN	3	C		32		F
MCMA	22	1810E		1810D	S05	E05	.193	16166	23.1		SN		P	1810	30	.3	E
HOLL	22	2002	2019	2026	N15	W70	.936		17.6	24	SB	2	C		40		DE
HOLL	22	2002	2004	2026	N15	W70	.936		17.6	24	SB	2	C		45		DE
PALE	22	2005E	2008U	2008D	N15	W70	.936		17.6	3D	SN	2	C		17		FDE
PALE	22	2119E	2122U	2142	N15	W67	.917		17.9	23D	SN	2	C		33		DE
PALE	23	0208	0215	0230	N14	W73	.953	16161	17.6	22	1B	3	C		106		U F
PALE	23	0216	0216	0229	N15	W32	.545		20.7	13	SB	3	C		49		U H
PALE	23	0221	0227	0241	N29	W85	.993		16.7	20	SN	3	C		0		
MANI	23	0350E	0350U	0400	N28	W83	.989		16.9	10D	SN	3	V		50		
ISTA	23	0745E		0757D	N28	W90	.999		16.6	12D	SN		V				A
ISTA	23	0745E		0755	S15	E01	.343		23.4	10D	SN		V				E

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
ISTA	23	0802E		0810	N04	W74	.960		17.8	80	SN		V				D
MONT	23	0812	0814	0822	N33	W18	.539		22.0	10	SF		C	0814	60		E
MONT	23	0818	0823	0831	N30	W86	.995		16.9	13	SF		C	0823	50		D
ISTA	23	0826		0838	N28	W90	.999		16.6	12	SN		V				A
ATHN	23	0827E	0828U	0838	N29	W84	.991		17.1	110	SB	3	C		32		
MONT	23	0947	0950	0954	N15	W76	.967		17.7	7	SF		C	0950	50		D
MONT	23	0955	1002	1024	N31	W18	.515		22.1	29	SN		C	1002	100		E
MONT	23	1050	1054	1102	N14	W66	.910		18.5	12	SF		C	1054	50		D
HOLL	23	1636	1640	1649	N31	W22	.547		22.0	13	SN	4	C		23		
HOLL	23	1645	1650	1715	S 5	W 7	.212		23.2	30	SB	4	C		142		UDE
BIGB	23	1646	1648	1708	S06	W07	.226		23.2	22	SN	3	C	1648	80	.8	
PALE	23	1848	1904	1923	N23	W24	.490		22.0	35	SN	3	C		34		F
PALE	23	1848	1848	1851	N23	W24	.490		22.0	3	SN	3	C		34		F
BIGB	23	1852	1907	1918E	N32	W24	.575		22.0	26D	SF	3	C	1907	50	.6	
PALE	23	2111	2127	2153	N31	W26	.583		21.9	42	SN	3	C		75		U F
PALE	23	2319	2320	2324	N30	W26	.573		22.0	5	SN	3	C		42		F
PALE	24	0058	0109	0132	N31	W29	.610		21.9	34	SB	3	C		119		FDE
PALE	24	0152	0156	0227	N31	W29	.610		21.9	35	SB	3	C		72		F
ISTA	24	0745E	0800	0825	N31	W31	.628		22.0	40D	SB		V				K
MONT	24	0751	0758	0832	N32	W30	.627		22.1	41	SB		C	0758	110		
ATHN	24	0759	0801	0826	N31	W30	.619		22.1	27	SB	3	C		80		F
MCMA	24	1140E		1142D	N32	W33	.655	16156	22.0	20	SF		P	1140	80	1.1	E
BIGB	24	1507	1512	1608	N31	W35	.667		22.0	61	SN	3	C	1512	70	.9	
RAMY	24	1525E	1531U	1609	N30	W33	.640		22.2	44D	SB	3	C		73		F
BIGB	24	1614	1616	1631	N29	W41	.713		21.6	17	SN	3	C	1616	50	.7	
RAMY	24	1615	1616	1622	N29	W36	.664		22.0	7	SN	3	C		95		F
RAMY	24	1850E	1916U	2018D	N14	E71	.942		30.1	88D	SN	2	C		20		
BIGB	24	1857	1859	1906	N14	E00	.154		24.8	9	SN	3	C	1859	50	.5	
HOLL	24	1900	1902	1906	N10	W18	.317		23.4	6	SN	3	C		25		F
BIGB	24	1901	1903	1913	N12	E65	.903		29.7	12	SN	3	C	1903	50		
RAMY	24	1912E	1958U	2018D	S15	E17	.442		26.1	66D	SN	2	C		30		
BIGB	24	2155	2200	2209	N12	E63	.887		29.6	14	SN	3	C	2200	30	.7	
HOLL	25	0040	0128	0132D	N31	W41	.723		22.0	52D	SB	3	C		113		Z U
PALE	25	0106	0131	0200D	N31	W39	.704	16156	22.1	54D	1B	3	C		180		FDE
PALE	25	0125	0126	0144	N16	E73	.952		30.5	19	SN	3	C		0		FDE
PALE	25	0220	0245	0321	N31	W40	.713		22.1	61	SN	3	C		49		FDE
PALE	25	0249	0256	0326	N16	E72	.947	16171	30.5	37	1B	3	C		110		FDE
MANI	25	0752E	0752U	0756D	S15	E14	.415		26.4	4D	SN	2	V		20		
WEND	25	0826		0941	S14	E13	.393		26.3	75	SN		C		50	.5	E
WEND	25	0830		0933	S13	E09	.347		26.0	63	SN		C				D
WEND	25	0834		0842D	S19	E17	.492		26.6	8D	SF		C				
MONT	25	0835	0839	0928	S15	E09	.376		26.0	53	SN		C	0839	80		E
WEND	25	1211		1257	N11	E61	.871		30.1	46	SN		C		60	1.3	
BIGB	25	1431	1432	1446	N16	E65	.903		30.5	15	SB	3	C	1432	20		
HOLL	25	1432	1432	1446	N15	E62	.880		30.3	14	SB	3	C		19		FDE
RAMY	25	1432	1432	1444	N16	E61	.872		30.2	12	SB	3	C		16		F
WEND	25	1600		1610D	S06	W29	.516		23.5	10D	SN		C	1604	60	.7	
HOLL	25	1601	1607	1619	S 6	W33	.571		23.2	18	SB	3	C		59		F
RAMY	25	1602	1606	1612	S 7	W33	.575		23.2	10	SB	3	C		39		
BIGB	25	1602	1604	1610	S06	W33	.571		23.2	8	SB	3	C	1604	30	.4	
HOLL	25	1737	1739	1756	S 8	W35	.606		23.1	19	SB	3	C		75		F
BIGB	25	1738	1739	1755	S06	W35	.598		23.1	17	SN	3	C	1739	30	.4	
BIGB	25	2048	2056	2103	S22	E90	1.001		1.6	15	SN	3	C	2056	40		
BIGB	25	2300	2301	2317	N32	W60	.882		21.5	17	SN	3	C	2301	40	.8	
HOLL	25	2307	2311	0007	N32	W40	.719		23.0	60	SB	3	C		100		F
BIGB	26	0003	0004	0006	N33	W56	.856		21.8	3	SF	3	C	0004	30	.6	
PALE	26	0235E	0237U	0253D	S15	W 1	.347		26.0	18D	SN	2	C		30		DE
ISTA	26	0656		0725	S13	W02	.316		26.1	29	SB		V				F
ISTA	26	0708		0713	S14	E18	.443		27.6	5	SN		V				E
ISTA	26	0732		0748	S14	E17	.433		27.6	16	SN		V				E
BUCA	26	0735		0750	S14	E17	.433		27.6	15	SF		C	0738	107	1.2	E
MONT	26	0923	0930	0948	S14	W05	.341		26.0	25	SN		C	0930	110		
ATHN	26	0933	0935	1013	N13	E51	.775		30.2	40	SB	4	C		80		F
MONT	26	0935	0952	1019	N15	E56	.827		30.6	44	SN		C	0952	70		
MONT	26	1042	1047	1100D	N16	E17	.339		27.7	18D	SF		C	1047	50		E
HOLL	26	1414	1416	1420	S17	E56	.863		30.8	6	SN	3	C		21		
BIGB	26	1439	1453	1549	N16	E53	.799		30.6	70	SN	3	C	1453	40	.7	
WEND	26	1443E		1456D	N15	E52	.788		30.5	13D	SN		C	1450	45	.8	
BIGB	26	2030	2037	2042	S29	E90	1.001		2.6	12	SN	3	C	2037	40		

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
HOLL	26	2058	2112	2131	S13	W11	.363		26.0	33	SB	3	C		75		U F
PALE	26	2058	2107	2128D	S15	W11	.391		26.0	30D	SN	3	C		98		F
BIGB	26	2105	2108	2122	S13	W11	.363		26.1	17	SN	3	C	2108	60	.6	
HOLL	26	2237	2238	2243	N15	E45	.710		30.3	6	SB	3	C		49		FDE
HOLL	27	0037	0039	0045	S15	W14	.417		26.0	8	SB	3	C		48		
PALE	27	0053E	0102U	0116	N17	E44	.702		30.3	23D	SB	3	C		53		FDE
HOLL	27	0055	0101	0113D	N17	E44	.702		30.3	18D	SB	3	C		60		DE
BIGB	27	0101	0104	0118	N16	E45	.712		30.4	17	SN	3	C	0104	60	.9	
PALE	27	0128E	0214U	0322	N17	E45	.714		30.4	114D	SB	3	C		91		FDE
ISTA	27	0806		0810	S15	W17	.445		26.1	4	SF		V				D
MONT	27	0853	0914	0934	N14	E38	.621		30.2	41	SN		C	0914	150		
ATHN	27	0906	0908	1014	N14	E39	.634		30.3	68	SB	3	C		95		F
MONT	27	0934	0936	0949	S07	W54	.822		23.3	15	SF		C	0936	50		H
MCMA	27	1321E		1353D	N13	E35	.578	16171	30.2	32D	SN		C	1322	50	.6	E
HOLL	27	1344	1352	1411	N12	W48	.741		24.0	27	SN	3	C		17		
BIGB	27	1459	1504	1518	N22	E90	.999		3.4	19	SN	3	C	1504	30		
PALE	28	0334	0335	0358	N16	E29	.505		30.3	24	SN	3	C		50		F
MONT	28	0748	0754	0824	S26	E49	.838		1.0	36	SF		C	0754	60		E
HOLL	28	1348	1350	1447	S14	W16	.424		27.4	59	SB	3	C		45		
HOLL	28	1418	1422	1434	S15	W36	.658		25.9	16	SB	3	C		101		
HOLL	28	1442	1442	1448	S21	E50	.826		1.4	6	SB	3	C		32		
HOLL	28	1454	1455	1535	N15	E23	.415		30.3	41	SB	3	C		58		U F
BIGB	28	1500	1507	1529	N17	E25	.455		30.5	29	SN	3	C	1507	170	1.9	
HOLL	28	1556	1558	1616	N15	E21	.386		30.2	20	SB	3	C		86		UDE
HOLL	28	1652	1652	1658	S21	E49	.818		1.4	6	SN	3	C		19		
HOLL	28	1707	1710	1745	S13	W17	.423	16169	27.4	38	1B	3	C		425		UDE
BIGB	28	1709	1711	1742	S13	W05	.327		28.3	33	SB	3	C	1711	170	1.8	
PALE	28	1713E	1714U	1734	S14	W15	.415	16169	27.6	21D	1B	3	C		315		U F
HOLL	28	1749	1754	1826	S13	W34	.622		26.2	37	SB	3	C		67		F
PALE	28	1750	1751	1808D	S13	W35	.634		26.1	18D	SB	3	C		56		FDE
BIGB	28	1750	1752	1759	S16	E54	.844		1.8	9	SF	3	C	1752	30	.5	
BIGB	28	1750	1753	1758	S12	W35	.628		26.1	8	SN	3	C	1753	50	.8	
PALE	28	1752	1752	1756	S15	E52	.823		1.6	4	SN	3	C		17		DE
BIGB	28	1804	1806	1823	S12	W35	.628		26.1	19	SN	3	C	1806	80	1.0	
HOLL	28	2207	2212	2246	S14	W19	.455	16169	27.5	39	1B	3	C		275		FDE
BIGB	28	2207	2212	2248	S13	W17	.423		27.6	41	SB	3	C	2212	160	1.7	
PALE	28	2209	2211	2232	S15	W19	.466		27.5	23	SB	3	C		111		F
BIGB	28	2221	2223	2234	S23	E49	.826		1.6	13	SB	3	C	2223	60	.9	
HOLL	28	2222	2224	2236	S21	E46	.791		1.4	14	SB	3	C		114		
PALE	28	2227E	2228U	2231	S23	E47	.809		1.5	4D	SN	3	C		21		
HOLL	28	2301	2311	2359	S15	W40	.702		26.0	58	SN	3	C		21		
HOLL	28	2357	0002	0004D	S21	E45	.782	16174	1.4	7D	1B	3	C		228		FDE
PALE	28	2358	0000	0020D	S22	E46	.796	16172	1.4	22D	1B	3	C		192		H F
BIGB	29	0000E	0000	0010	S23	E47	.809		1.5	10D	SB	3	C	0000	110	1.7	
MCMA	29	1413	1415	1418	S15	W47	.776	16164	26.1	5	SN		C	1415	30	.5	D
WEND	29	1620		1708	N17	E12	.283		30.6	48	SF		C	1635	75	.8	
WEND	29	1620		1705	N18	E07	.246		30.2	45	SF		C	1635	50	.6	
BIGB	29	1623	1624	1651	N17	E10	.260		30.4	28	SF	3	C	1624	150	1.6	
HOLL	29	1624	1627	1631	N15	E11	.248		30.5	7	SN	3	C		33		
WEND	29	1734E		1739D	S21	E38	.716		1.6	5D	SN		C	1734	45	.6	
BIGB	29	2141	2143	2147	S06	E90	1.000		5.7	6	SN	3	C	2143	40		
BIGB	29	2147	2149	2244	N16	E35	.586		1.5	57	SF	3	C	2149	40	.5	G
PALE	29	2312	2314	2322D	S15	W54	.842		25.9	10D	SN	3	C		16		F
HOLL	29	2357	0002	0025	S21	E45	.783	16175	2.4	28	1B	3	C		228		FDE
PALE	30	0234E	0257U	0334D	N23	E15	.384		31.2	60D	SB	3	C		161		U S
PALE	30	0354E	0354U	0446D	N23	E15	.384	16171	31.3	52D	1B	3	C		228		U S
MONT	30	0853	0855	0935	S16	W55	.853	16164	26.2	42	1N		C	0855	250		
MONT	30	0855	0857	0924	N14	W01	.147		30.3	29	SF		C	0857	50		
HOLL	30	1910E	1913	1925	S21	W68	.950		25.7	15D	SB	2	C		73		U
HOLL	30	1910E	1913	1925	S17	W62	.908		26.1	15D	SB	2	C		73		U
BIGB	30	1912	1913	1923	S15	W64	.918		26.0	11	SB	3	P	1913	80	1.9	
HOLL	30	2049	2119	2132	S17	W62	.908		26.2	43	SB	3	C		38		
BIGB	30	2113	2115	2126	N15	W08	.212		30.3	13	SN	3	C	2115	70	.8	
HOLL	30	2114	2114	2128	N14	W 7	.188		30.4	14	SB	3	C		63		
BIGB	30	2117	2118	2131	S15	W64	.918		26.1	14	SN	3	C	2118	50	1.2	
BIGB	30	2148	2149	2200	S15	W65	.925		26.0	12	SB	3	C	2149	20		
HOLL	31	0008	0010	0042	S16	W69	.949		25.8	34	SN	3	C		47		U F

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HOLL	31	0008	0028	0042	S16	W69	.949	16164	25.8	34	1B	3	C		115		U F
PALE	31	0022	0026U	0052D	S16	W68	.944		25.9	30D	SN	3	C		16		DE
BIGB	31	0026	0027	0033	S15	W66	.931		26.1	7	SB	2	C	0027	40		
IS1A	31	0630		0632	S23	E16	.540		1.5	2	SN		V				D
BIGB	31	1636	1637	1643	S23	E14	.527		1.7	7	SN	2	C	1637	30	.3	
BIGB	31	1722	1725	1738	N15	E13	.272		1.7	16	SF	2	C	1725	20	.2	
BIGB	31	1800	1801	1802	N17	W21	.398		30.2	2	SN	2	C	1801	40	.4	

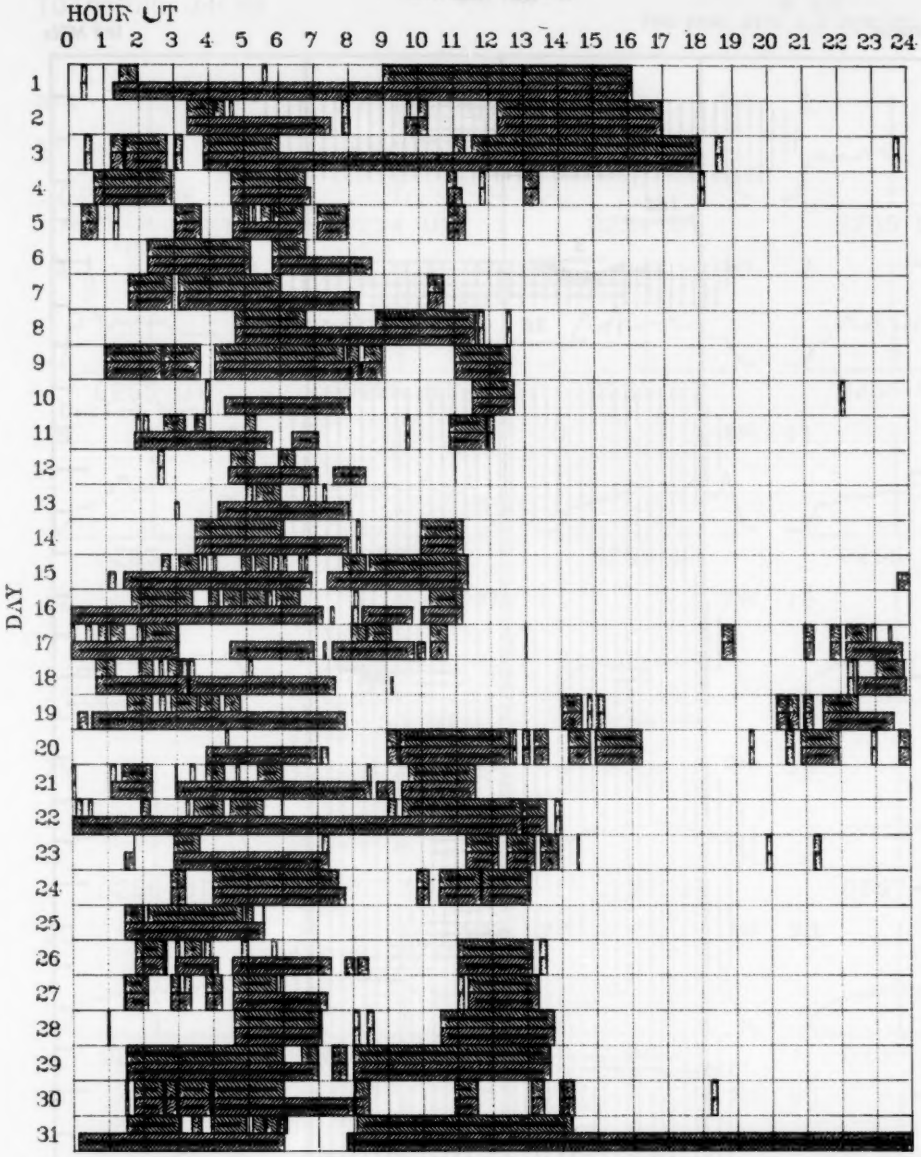
"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JULY 1979



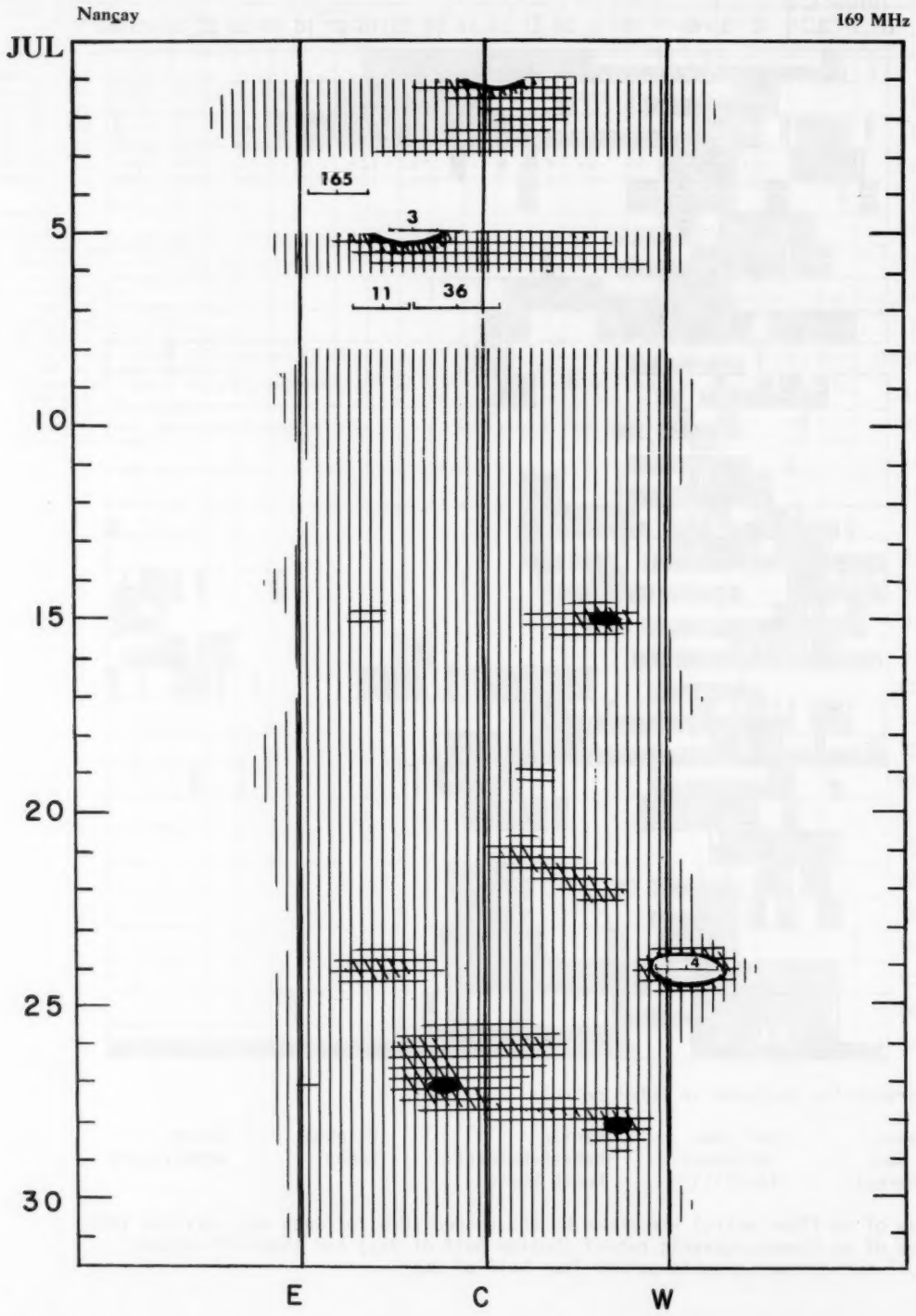
Observatories included in total patrol:

Athenes	Holloman	Manila	Palehua	Upice
Big Bear	Istanboul	McMath-Hulbert	Ramey	Wendelstein
Bucharest	Kandilli	Monte Mario		

Times of no flare patrol are shown by the shaded area for each day, divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

JULY 1979

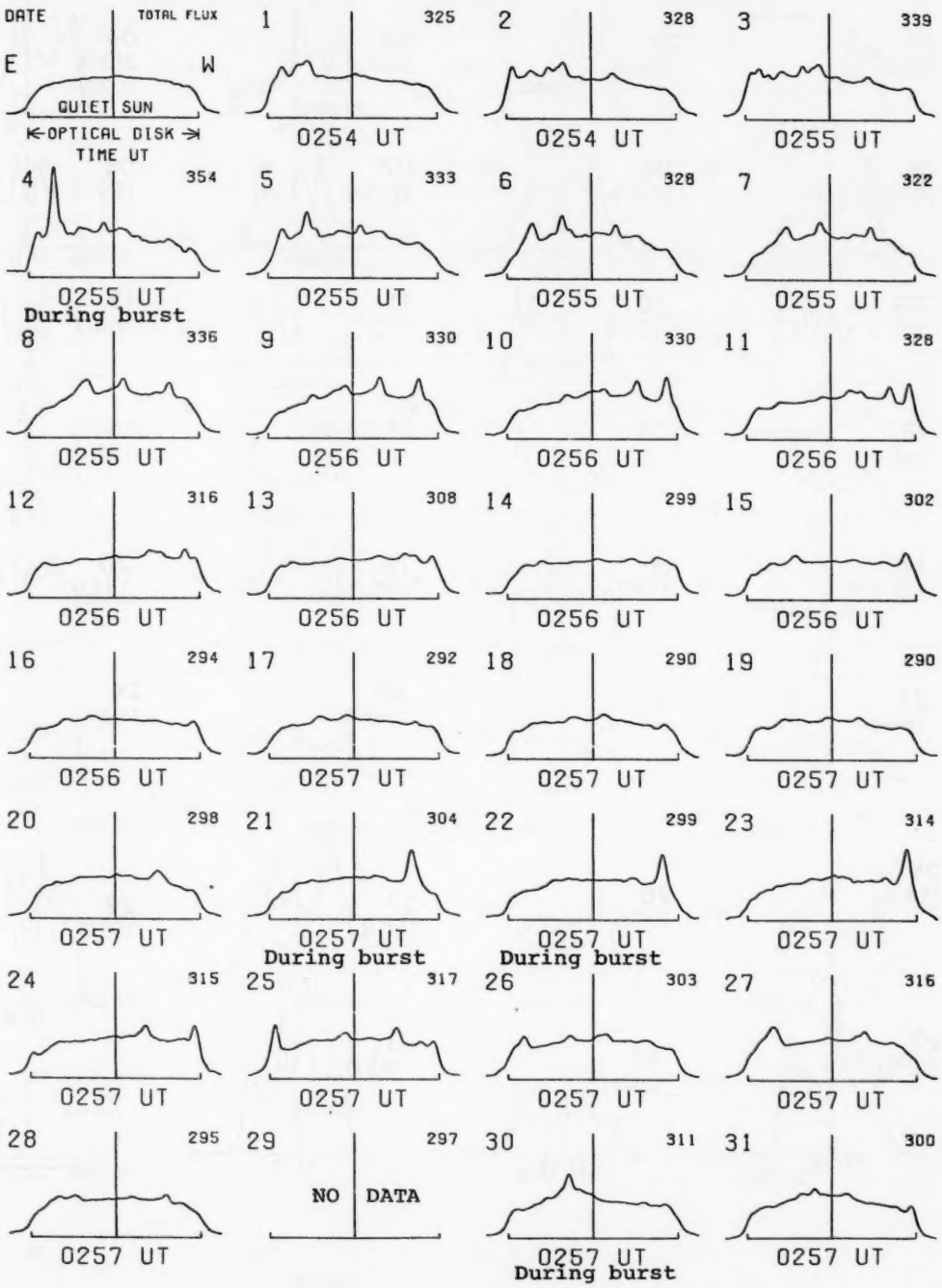


EAST-WEST SOLAR SCANS

JULY 1979

TOYOKAWA, JAPAN

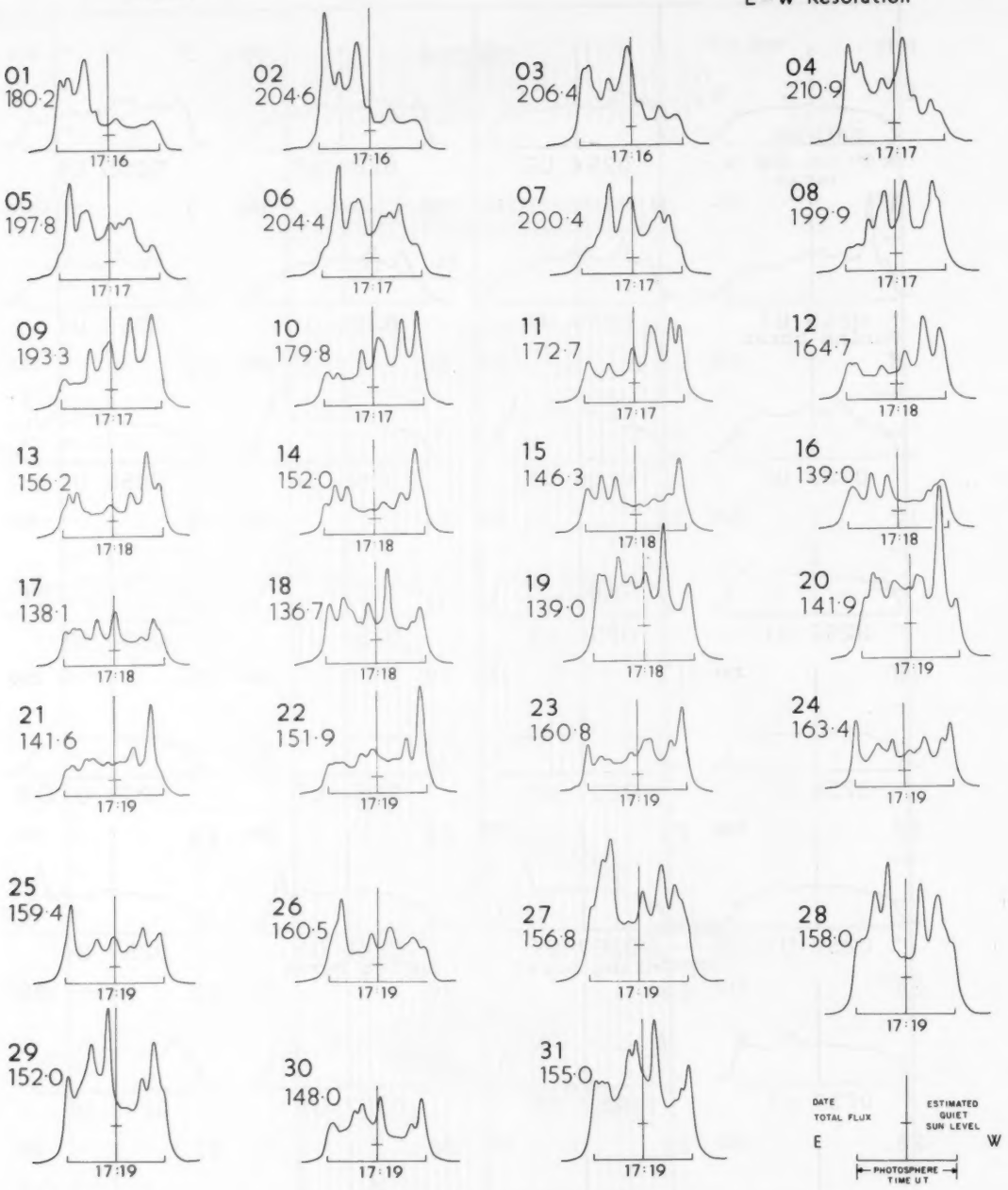
3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



EAST-WEST SOLAR SCANS
JULY 1979

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution

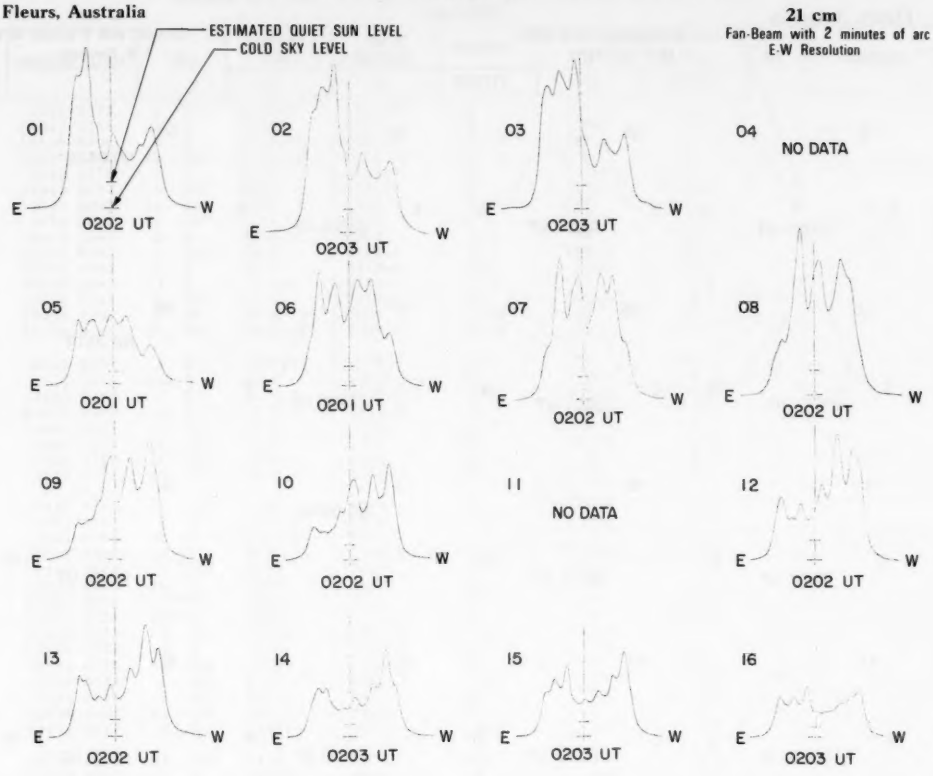


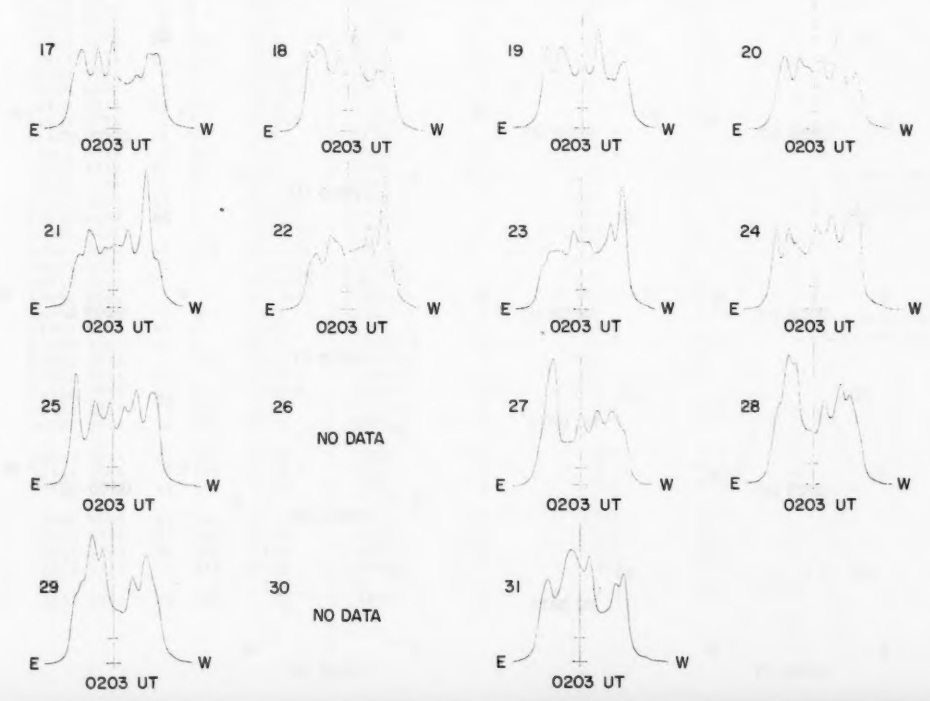
EAST-WEST SOLAR SCANS

JULY 1979

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution





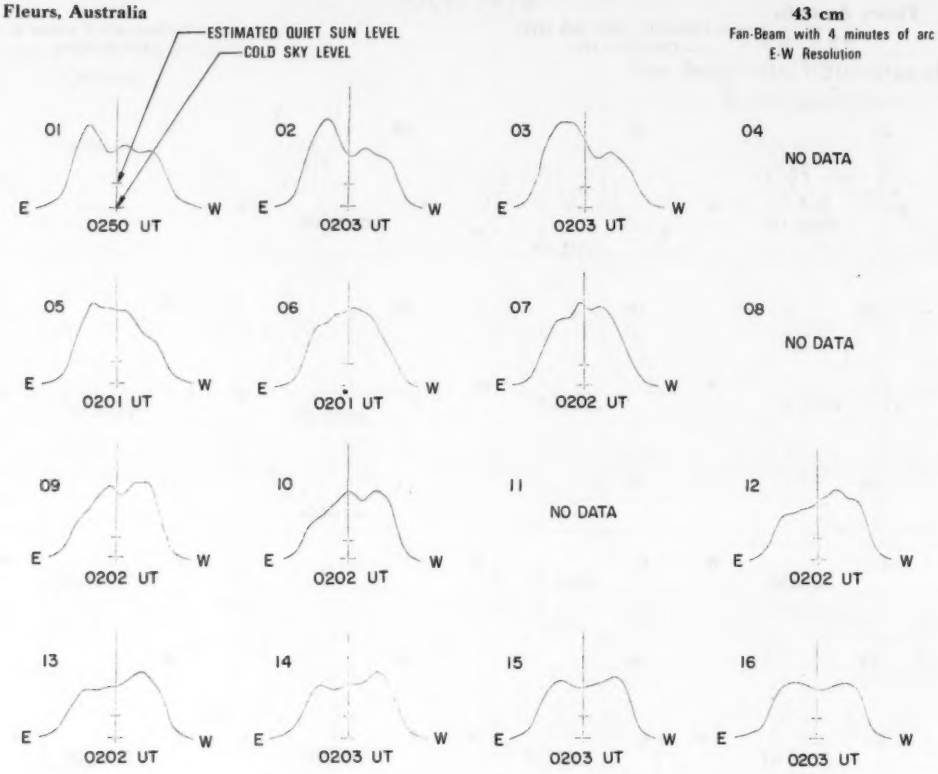
EAST-WEST SOLAR SCANS

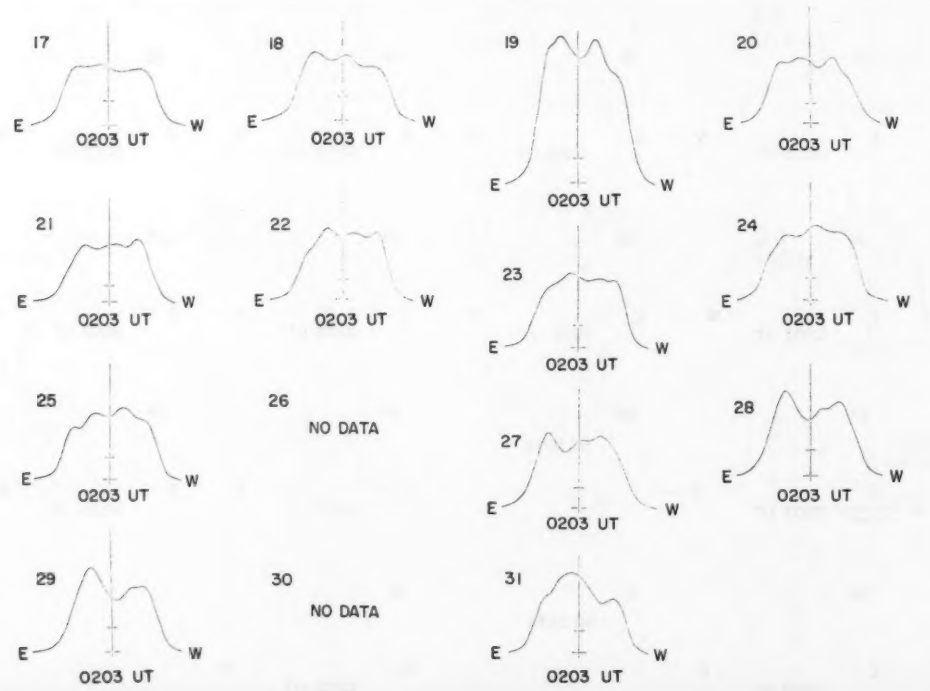
JULY 1979

Fleurs, Australia

43 cm

Fan-Beam with 4 minutes of arc E-W Resolution





SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JULY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22}Wm^{-2}Hz^{-1}$ PEAK	FLUX DENSITY MEAN	INT	REMARKS
1	2800	OTTA	1 S	1147.8	1148.2	1	3.6	1.8		
	2800	OTTA	1 S	1618.2	1619	4	9.2	3.1		
	2695	BCUL	3 S	1619.5E	1620.5	2 D	13	4		
	2695	BCUL	29 PBI	1621.5E	1623 U	12 D	6	2		
	2800	OTTA	1 S	1806	1806.5	1	2.6	1		
	2800	OTTA	4 S/F	1916	1921.3	10	23.4	4.6		
	2695	BCUL	23 GRF	1918 E	1922	6.5D	24	8		
	2800	OTTA	20 GRF	2025	2033	45	2.6	1.3		
	8800	SGMR	3 S	2306.9	2308	2.1	94	25		
	8800	MANI	4 S/F	2307	2306.2	2.3	168.8	56.3		
	2695	MANI	3 S	2307	2309.1	2.8	27.2	9.1		
	2695	SGMR	3 S	2307.4	2307.8	1.3	19	5.6		
	2695	PENT	4 S/F	2307	2307.2	2	19.4	9.7		
	2695	BOUL	4 SF	23.8 E	2309	1.5D	20	7		
	2695	BCUL	29 PBI	2309.5E	2309.5	2.5D	13	4		
2	8800	SGMR	3 S	1128.6	1129.6	1.7	75	23		
	2800	OTTA	240 R	1140	1300	80	7.4	4		
	8800	SGMR	1 S	1407.9	1408.5	1.4	5.4	1.6		3G
	2695	SGMR	1 S	1408.2	1408.6	1	5.3	1.5		3G
	2695	PENT	1 S	1408	1408.4	1.5	6	3		
	2800	OTTA	20 GRF	1420	1713	270	12.8	6.4		
	2800	OTTA	22 GRF	1858	1902	25	5.9	2		
	2800	OTTA	22 GRF	2007	2018	25	9	3		
3	2800	OTTA	21 GRF	1055	1120	65	8.2	4.1		
	2800	OTTA	8 S	1137.7	1138	.8	2.4	1.2		
	2800	OTTA	8 S	1207.9	1208	.5	2	1		
	2695	SGMR	3 S	1222.3	1231.1	13.3	19.6	5.9		
	2800	OTTA	22 GRF	1226	1231	23	10.4	3.5		
	2800	OTTA	24 R	1815	1825	10	4			
	2800	OTTA	27AFRF	1815		90	4	3.3		
	2800	OTTA	24P R	1825		60	4			
	2800	OTTA	8 S	1907.5	1907.5	.5	1.8			
	2800	OTTA	1 S	1911	1911.5	1	1.8			
	2800	OTTA	26 FAL	1929	1945	20	-4	-2		
	2800	OTTA	2 S/F	1958	1958.7	1.5	3	1.6		
	2800	OTTA	20 GRF	2020	2044	50	5.6	2.2		
	2695	PENT	21 GRF	2225	2308	85	6	3		
	2800	OTTA	1 S	2258.5	2259	1.5	1.8	.9		
4	2695	PENT	23 GRF	0115	0123	30	3.6	1.8		
	2695	PENT	1 S	0120.7	0121	2	4.8	2.4		
	2695	MANI	4 S/F	0245	0252.3	13	377.9	125.9		
	8800	MANI	47 GB	0608	0609	3	570.2	190.1		
	2695	MANI	3 S	0608.6	0608.9	1.6	118.1	39.4		
	8800	SGMR	3 S	1130.7	1132	6.5	60	18		SWF
	2695	SGMR	3 S	1131.2	1132.1	5.9	79	24		SWF
	2800	OTTA	3 S	1131	1131.5	5	65	18		
	2800	OTTA	26 FAL	1300	1340	40	-5	-2.5		
	2800	OTTA	26 FAL	1450	1550	60	-5.4	-2.7		
	2800	OTTA	3 S	1640.5	1641	3	21.2	5.2		
	2695	BCUL	3 S	1641.5E	1642	2 D	21	7		
	2800	OTTA	23 GRF	1730	1736	75	4.2	2.4		
	2800	OTTA	1 S	1728.5	1728.7	1	6	3		
	2800	OTTA	8 S	1732	1732.2	.3	6.3			
	2800	OTTA	2 S/F	1740	1743	6	7.2	3		
	2800	OTTA	21 GRF	1905	1945	355	45	17.4		
	2695	SGMR	45 C	1910.5	2002.6	78.7	348	10.4		2,CONT,SWF
	2695	SGMR	45 C	1910.5	1938.3		114			2,CONT,SWF
	2695	SGMR	45 C	1910.5	1919.9		131			2,CONT,SWF
	2695	BCUL		1911.5E	1931		97	32		
	2695	BOUL	42 SER	1911.5E	1920.5	86 D	193	64		
	2695	BCUL		1911.5E	2003.5		331	110		
	2695	BCUL		1911.5E	2000.5		139	46		
	2695	BOUL		1911.5E	1938.5		113	38		
	2800	OTTA	4 S/F	1911	1913.7	5	14	4.8		
	8800	SGMR	45 C	1912	1939.5		71.4			2,CONT,SWF
	8800	SGMR	45 C	1912	1920.2	69.4	91.8	27.5		2,CONT,SWF
	2800	OTTA	4 S/F	1918	1919.6	3	121	30		
	2800	OTTA	45 C	1924	1930.1	20	80	29		
	2800	OTTA	40 F	1954.5	2002.7	12.5	235			
	2800	OTTA	2 S/F	2024	2024.6	2	8.4	2.8		
	2800	OTTA	20 GRF	2230	2231.5	50	7.6	2.5		
5	2800	OTTA	21 GRF	1725	1820	115	3.4	1.7		
	2800	OTTA	4 S/F	1758.5	1801	7	12	4		
	2800	OTTA	20 GRF	2210	2225	110	6.2	3.1		
6	2695	PENT	20 GRF	0131.5	0134	14	6.6	3.3		
	2800	OTTA	20 GRF	1545	1605	80	4.2	2.1		
	2800	OTTA	20 GRF	1935	1955	140	4.4	2.2		
	2800	OTTA	2 S/F	2141	2142.5	8	4.2	2.1		
7	2800	OTTA	20 GRF	1135	1140	30	2.2	1.4		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
JULY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	2 S/F	1232.2	1222.5	3	4.2	2.1		
	2800	OTTA	26 FAL	1740	1935	95	-6			
	2800	OTTA	3 S	2031.7	2032	2	12	4		
	2695	BCUL	3 S	2032 E	2032.5	2.5D	11	4		
	2800	OTTA	24C R	2220	2232	12	4.2	2.1		
8	2800	OTTA	24C R	1615	1649	75	4	2		
	8800	SGMR	3 S	2026.5	2028.2	5.3	58.7	17.6		SWF
	2800	OTTA	4 S/F	2026	2028.2	4	62	21		
	2695	SGMR	3 S	2027.4	2026.5	5.4	55.4	16.3		SWF
	2695	BCUL	46 C	2027.5E	2029	4 D	72	24		
	2800	OTTA	29 PBI	2030	2030	75	6.4	3.2		
	2800	OTTA	20 GRF	2210	2210	50	4.4	2.2		
9	2800	OTTA	21 GRF	1345		85	8.8			
	2800	OTTA	3 S	1357.2	1358	2	17.4	8.7		
	8800	SGMR	1 S	1357.3	1358	1.8	6.9	2.1		
	2695	SGMR	3 S	1357.8	1358.2	1.4	20.1	6		
	2695	BCUL	3 S	1358 E	1359	2.5D	19	6		
	2800	OTTA	27A RF	1545		395	1.8	1.7		
	2800	OTTA	24 R	1545	1550	5	1.8	.9		
	2800	OTTA	24P R	1550		370	1.8			
	2800	OTTA	20 GRF	1630	1650	60	2	1		
	2800	OTTA	22 GRF	1650	2040	195	6.4	3.2		
	2800	OTTA	26 FAL	2210	2230	20	-1.8	-.9		
	2695	PENT	20 GRF	2325	2331.5	55	5	2.5		
10	2800	OTTA	22 GRF	1200	1209	150	5.8	2.9		
	2800	OTTA	1 S	1834	1834.5	1.5	2.6	1.3		
	2800	OTTA	20 GRF	2120	2124	16	4.4	2		
11	2800	OTTA	21 GRF	1514	1520	40	2.8	1.4		
	2695	SGMR	3 S	1516	1517.2	4.8	17	5.1		5,SWF
	8800	SGMR	3 S	1516	1518.8	8	242	72.6		5,SWF
	2800	OTTA	4 S/F	1516.3	1518	3.2	11.2	5		
	2800	OTTA	26 FAL	1610	1640	30	-2	-1		
	2800	OTTA	24 R	1952	1954	2	3	1.5		
	2800	OTTA	27 RF	1952		40	3	2.4		
	2800	OTTA	24P R	1954		27	3			
	2800	OTTA	26 FAL	2021	2030	9	-3	-1.5		
	2695	PENT	21 GRF	2310	2322	125	5.2	2.8		
	2695	PENT	20 GRF	2415	2422	30	13	5		
14	2800	OTTA	20 GRF	1615	1700	105	2.2	1.1		
	2800	OTTA	20 GRF	1820	1845	40	1.8	.9		
	2800	OTTA	20 GRF	1930	1945	45	2.8	1.4		
	2800	OTTA	20 GRF	2015	2057	65	3.2	1.6		
	2800	OTTA	20 GRF	2155	2210	70	5.4	2.6		
	2695	PENT	20 GRF	2312	2319	35	4.4	2.2		
15	2800	OTTA	20 GRF	1700	1800	185	3	1.8		
	2800	OTTA	21 GRF	2020	2045	70	2.2	1.1		
	8800	SGMR	3 S	2022.9	2023.3	1.5	67.6	20.3		
	2800	OTTA	1 S	2023	2023.3	2	9.6	3.2		
16	2695	PENT	3 S	0036	0039.4	7	77	19.2		
	2695	MANI	3 S	0037.5	0039	3.2	26.8	26.8		
	8800	MANI	3 S	0037.8	0039.1	5.2	260.3	86.7		
	2800	OTTA	1 S	1250.9	1251	1	1.4	.7		
	2695	BCUL	41 F	1753 E	1755.5	7 D	155	52		
	2695	BCUL	41 F	1822 E	1823	4.5D	132	44		
	2695	BCUL	46 C	2137.5E	2138	1.5D	51	17		
	2800	OTTA	3 S	2137	2137.6	1	60	20		
17	2800	OTTA	20 GRF	1435	1450	35	1.6	.8		
	2695	BCUL	41 F	1727.5E	1728	8.5D	15	5		
	2695	BCUL	41 F	1800 E	1803.5	4 D	25	8		
	2800	OTTA	20 GRF	1910	1915	100	2.6	1.6		
	2800	OTTA	4 S/F	2100.8	2101.5	1.2	11.6	5.8		
19	2695	SGMR	3 S	1054	1056.5	4	39.7	11.9		5
	8800	SGMR	3 S	1054.5	1056	5	98	26.4		5
	2800	OTTA	2 S/F	1538.5	1539.7	4	2.8			
	2800	OTTA	1 S	1557	1557.5	1.2	2	1.3		
	2800	OTTA	1 S	1703	1703.6	1	4	2		
	2695	BCUL	3 S	1708.5E	1709.5	2 D	10	3		
	2800	OTTA	1 S	1836	1836.5	2.5	9.2	2.4		
	2800	OTTA	8 S	1923.2	1923.5	.8	1.6	.8		
	2800	OTTA	1 S	2049.3	2049.5	1.5	1.8	.9		
	2800	OTTA	8 S	2207.2	2207.2	.1	2.8			
	2800	OTTA	1 S	2247	2250	9	2.4	1.4		
	2695	PENT	20 GRF	2330	2450	120	3.6	2		
20	2800	OTTA	2. GRF	1200	1300	195	6	3.6		
	8800	SGMR	3 S	1209.3	1209.4	.1	23.5	7.1		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
JULY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22}Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	2800	OTTA	20 GRF	1615	1650	50	1.6	.6		
	2800	OTTA	24 R	1920	1930	10	2	1		
	2800	OTTA	27A RF	1920		260	2	1.9		
	2800	OTTA	24P R	1930		235	2			
	2800	OTTA	4 S/F	1942.5	1944.7	6	34	11.8		
	2695	SGMR	3 S	1942.7	1945.4	8	34.8	10.4		
	8800	SGMR	3 S	1942.7	1946	5.6	7.4	2.2		
	2695	BCUL	46 C	1943 E	1946	3.50	30	10		
	2695	BCUL	29 PBI	1946.5E	1946.5	2.50	10	3		
	2800	OTTA	26 FAL	2325	2340	15	-2	-1		
21	2800	OTTA	1 S	1109.2	1110.2	2	2	1		
	2800	OTTA	21 GRF	1305	1357	265	8.2	4.1		
	2695	SGMR	20 GRF	1342.1	1351.2	27.9	9	3.6		SWF
	8800	SGMR	3 S	1342.5	1350.5	27.5	33	13.2		SWF
	2800	OTTA	2 S/F	1342.8	1344.7	3	3.4	1.5		
	2800	OTTA	1 S	1350	1351.3	5	6.6	3		
	2800	OTTA	240 R	1825	1945	80	3	1.5		
	2800	OTTA	1 S	2049	2051.2	5	2.6	1.3		
	2800	OTTA	240 R	2150	2240	50	3.2	1.6		
22	2800	OTTA	240 R	1230	1300	30	2.8	1.4		
	2800	OTTA	1 S	1436	1437	2	3.6	1.7		
	8800	SGMR	1 S	1739.3	1739.9	3.9	7.2	2.1		SWF
	2800	OTTA	21 GRF	2120	2345	270 D	13.6			
	2800	OTTA	1 S	2130.8	2131.5	1.2	3.6	1.7		
	2800	OTTA	1 S	2216	2218	5	5.2	1.8		
	2695	PENT	4 S/F	2332.7	2333.2	1.3	16.4	8.2		
	2695	BCUL	3 S	2333.5E	2334.5	2.50	10	3		
23	2800	OTTA	20 GRF	1225	1445	240	3.4	1.7		
	2800	OTTA	21 GRF	1635	1655	55	4.4	2.2		
	8800	SGMR	3 S	1646.8	1649	7.3	15	4.5		
	2800	OTTA	4 S/F	1646	1648.5	6	19.2	5		
	2695	BCUL	45 C	1647 E	1649	6 D	26	9		
	2800	OTTA	20 GRF	1845	1910	55	1.8	.9		
	2800	OTTA	32 ABS	2035	2050	25	-2.4	-1.2		
	2800	OTTA	27 RF	2115		105	2.8	2.1		
	2800	OTTA	24 R	2115	2120	5	2.8	1.4		
	2800	OTTA	24P R	2120		55	2.8			
	2800	OTTA	26 FAL	2215	2300	45	-2.8	-1.4		
24	2800	OTTA	20 GRF	1100 E	1120	110 D	5.8			
	2800	OTTA	21 GRF	1505	1515	115	5.8	2.4		
	2800	OTTA	1 S	1509.5	1510	1.5	3.8	1.9		
	2800	OTTA	20 GRF	1610	1615	30	2.8	1.4		
	2695	BCUL	46 C	1648 E	1649	2 D	33	11		
	2800	OTTA	20 GRF	1820	1925	150	2.8	1.4		
	2695	PENT	24 R	2210	2227	17	3.4	1.1		
	2695	PENT	27 RF	2210		180	3.4	2.8		
	2695	PENT	24P R	2227		118	3.4			
	2695	PENT	26 FAL	2425	2510	45	-3.4	-1.7		
25	2800	OTTA	20 GRF	1110	1230	235	8	4		
	8800	SGMR	3 S	1430.8	1431.3	2.5	24.5	7.4		
	2800	OTTA	240 R	1630	1620	20	3	1.5		
	2800	OTTA	20 GRF	1820	1840	95	3.4	1.7		
	2800	OTTA	240 R	2035	2050	15	3.6			
26	2800	OTTA	20 GRF	1435	1455	65	2.2	1.1		
	2800	OTTA	26 FAL	1625	1705	40	-2.8	-1.4		
	2800	OTTA	20 GRF	1845	1900	45	2.2	1.1		
	2800	OTTA	20 GRF	2110	2130	80	2.8	1.6		
	2800	OTTA	1 S	2216	2237	2	1.4	.7		
27	2695	PENT	1 S	0036	0037	3	4	1.3		
	2800	OTTA	21 GRF	1145	1340	215	8	5.6		
	8800	SGMR	3 S	1154.6	1155	5.4	14.3	4.3		SWF
	2695	SGMR	45 C	1154.6	1158.3		15.3			SWF
	2695	SGMR	45 C	1154.6	1155.5	7.2	18.3	10.5		SWF
	2800	OTTA	45 C	1154	1155	9	22.8	7.6		
	2800	OTTA	20 GRF	1615	1700	80	2.6	1.3		
	2800	OTTA	20 GRF	1755	1820	55	2.6	1.3		
28	2800	OTTA	20 GRF	1125	1140	55	1.8	.9		
	2800	OTTA	2 S/F	1343.5	1345	10	2.8	1.4		
	2800	OTTA	21 GRF	1452	1505	125	5.8	4.4		
	2800	OTTA	1 S	1554.5	1556	3	6.2	3		
	2695	BCUL	3 S	1556 E	1557.5	3.50	10	3		
	2800	OTTA	21 GRF	1708	1714	115	4.4	2.2		
	2695	PENT	4 S/F	1710.2	1710.4	1.5	10.2	3.4		
	2695	BCUL	27 RF	1710.5E	1711	6.50	5	2		
	2800	OTTA	1 S	1748	1751	8	2.8	1.4		
	2800	OTTA	20 GRF	2218	2223	37	6.4	3.2		
	2695	PENT	4 S/F	2358	2359.5	6	40	15		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
JULY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	2695	BOUL	46 C	2359 E	2405	3.5D	42	14		
29	2695	BOUL	29 PSI	0012.5E	0002.5	2.5D	5	2		
	2800	OTTA	1 S	1213.5	1214.6	3.5	2.8	1.4		
	2800	OTTA	20 GRF	1515	1520	45	2.4	1.2		
	2800	OTTA	20 GRF	1718	1725	50	2.4	1.4		
	2800	OTTA	20 GRF	1840	1850	40	2.4	1.2		
31	2800	OTTA	21 GRF	1110	1155	90	3	1.5		
	2800	OTTA	1 S	1155.5	1156	2	2.8	1.4		
	2800	OTTA	32 ABS	1855	1920	125	-3	-1.5		
	2800	OTTA	20 GRF	2215	2227	130	3.2	1.8		

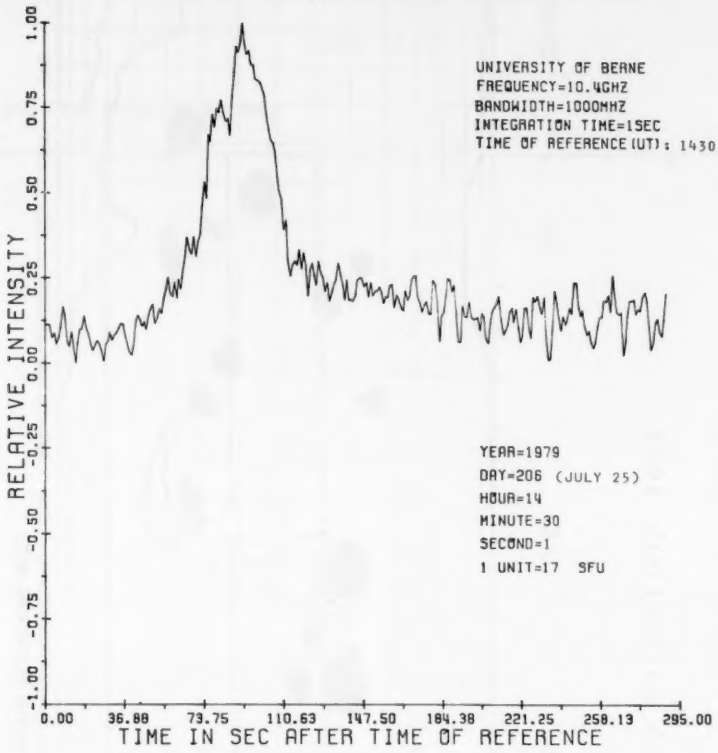
Observatories:

BERN = Berne BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

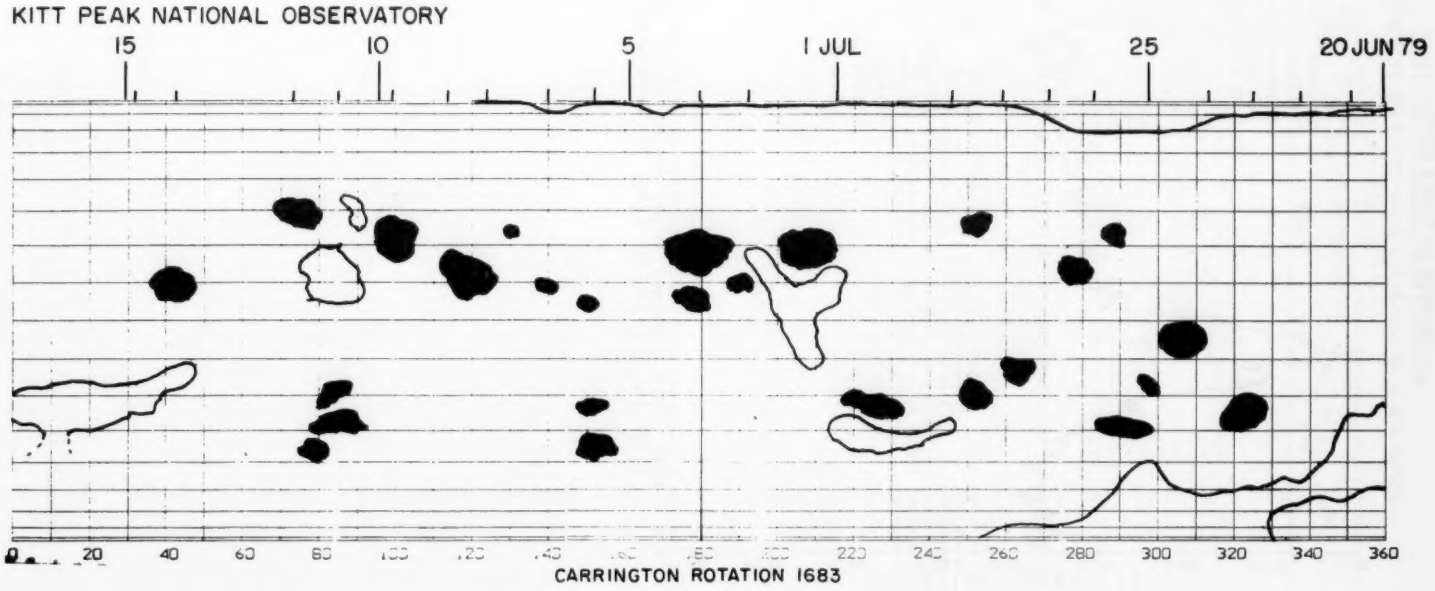
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SELECTED SOLAR NOISE BURST
JULY 1979



HELIUM 10830Å SYNOPTIC MAPS

CARRINGTON ROTATION 1683



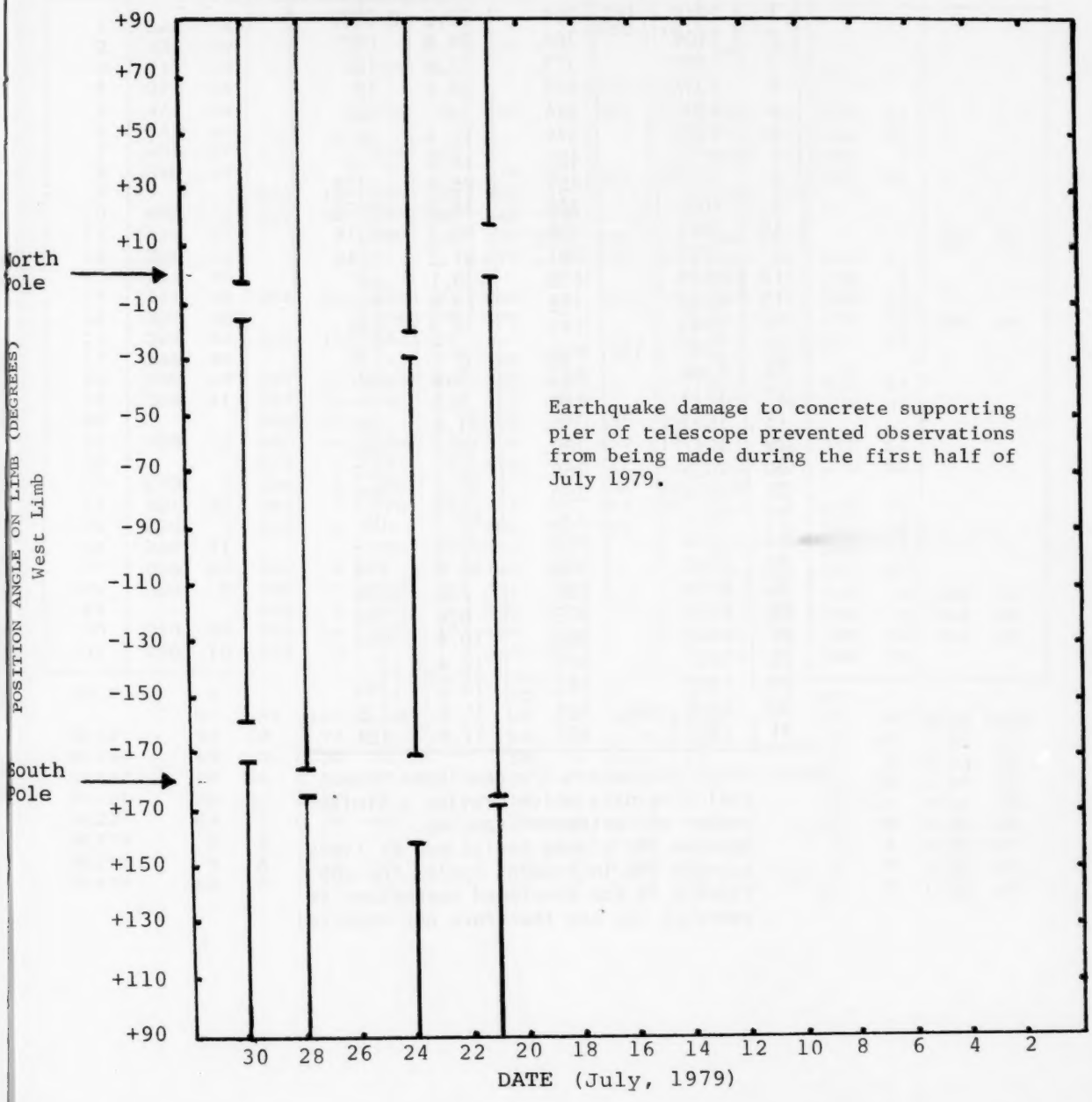
POSITION ANGLE ON LIMB (DEGREES)

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

JULY 1979

Big Bear Solar Observatory



Earthquake damage to concrete supporting pier of telescope prevented observations from being made during the first half of July 1979.

PIONEER XII

JULY 1979

DATE Jul '79	TIME (UT)	ESV (°)	U_{H^+} (Km/sec)	N_{H^+} (H^+/CC)	T_{H^+} ($\times 10^{6}$°K)
1	1248	143.	334.	22.3	0.0982
2	1104		364.	24.6	.0927
3	1745		373.	11.6	.188
4	1037		455.	18.9	.12
5	1302		444.	14.	.082
6	1308		374.	17.4	.0679
7	1109		423.	18.8	.142
8	1107		451.	25.4	.0124
9	1007		348.	26.8	.0538
10	1047		306.	88.2	.0315
11	1203		281.	81.2	.0248
12	1629		638.	9.1	.89
13	0658		446.	13.8	.187
14	1053		743.	8.3	.525
15	1201	152.	602.	8.2	.138
16	1354		523.	5.3	.107
17	1113		484.	5.2	----
18	1053		396.	11.4	.183
19	1047		385.	18.3	.049
20	1005		358.	25.1	.072
21	1059		350.	22.8	.024
22	1201		330.	52.7	.05
23	1156		349.	33.7	----
24	1148		342.	58.9	.054
25	0758		528.	7.8	.295
26	1359		379.	8.4	.086
27	1140		360.	10.4	.061
28	1247		459.	17.4	.2
29	1302		446.	13.3	.263
30	0956	162.	489.	15.6	.175
31	1322		476.	11.8	.104

*NOTE--These parameters are developed from real time data which provide a limited number of instrument samples. Because the plasma variation, at times, exceeds the instrument cycle, the confidence in the developed parameters is somewhat low and therefore not reported.

SOLAR WIND

Interplanetary Scintillations

JULY 1979

DAY	3C48 VEL	3C48 ERR	3C144 VEL	3C144 ERR	3C147 VEL	3C147 ERR	3C161 VEL	3C161 ERR	3C237 VEL	3C237 ERR	3C273 VEL	3C273 ERR	3C298 VEL	3C298 ERR	3C459 VEL	3C459 ERR
1	322	4							252	19						
2	334	12					274	11			382	22				
3	315	10			339	13										
4	373	24							450	33						
5	377	38			339	38	457	8	366	11	402	42	399	51		
6	441	22									490	112	366	30		
7	401	27			474	42					608	21	686	7		
8	348	19					279	31	389	38			321	56		
9			412	12	294	25	456	19			490	49				
10	482	6	467	68	329	82	443	15								
11	419	57			280	8	322	55	472	72	426	97			382	36
12	326	16					275	16	270	31	350	42	270	47		
13	414	98									334	5	358	7		
14	311	18	395	42	380	24	356	15	402	7	383	6	382	12		
15	337	22			354	5	375	7			417	30	457	25	390	66
16	329	47	332	10	371	37					231	39	502	65		
17	366	40					488	66			304	45				
18	530	17	337	17	385	40	487	24			415	6	337	24		
19	364	41	347	10	272	43	316	10			472	39	404	37		
20			362	16			398	30	352	27						
21	385	12	440	14	284	13	354	16	459	119	311	86	398	24		
22			372	7	347	8	430	40	415	55	353	22	298	52		
23	293	9	306	6	352	10			336	30	328	10				
24	421	37	344	7	372	15	604	25	349	39	304	9	235	49		
25	228	3	310	4			482	52	350	24	311	5	341	8		
26	260	41			326	28	372	10			324	7	246	4		
27	336	12	342	6			440	25			280	31	351	27		
28	300	5	352	17	338	7	331	4			321	19	310	8	282	10
29			324	5	322	6	388	17			307	6	350	3	361	24
30	313	30	331	14	253	39	439	10			485	27	384	50	368	13
31	290	10	324	5			365	81			416	99	384	75		

JULY	5 UT	LAT	DIST	DLON	15 UT	LAT	DIST	DLON	25 UT	LAT	DIST	DLON
3C48	15.	12.	0.94	18.	14.	12.	0.99	16.	13.	12.	1.03	15.
3C144	19.	3.	0.34	70.	18.	4.	0.49	61.	17.	5.	0.63	51.
3C147	18.	54.	0.52	37.	17.	43.	0.60	41.	16.	35.	0.69	39.
3C161	20.	-52.	0.50	26.	19.	-42.	0.54	37.	19.	-31.	0.61	39.
3C237	24.	-5.	0.74	-42.	23.	-6.	0.62	-51.	22.	-8.	0.48	-60.
3C273	2.	2.	1.01	-17.	1.	3.	0.96	-18.	0.	4.	0.89	-27.
3C298	4.	6.	1.12	-15.	3.	7.	1.08	-16.	2.	9.	1.03	-17.
3C459	12.	6.	1.15	14.	11.	7.	1.18	12.	11.	8.	1.22	10.

INFERRED IP MAGNETIC FIELD

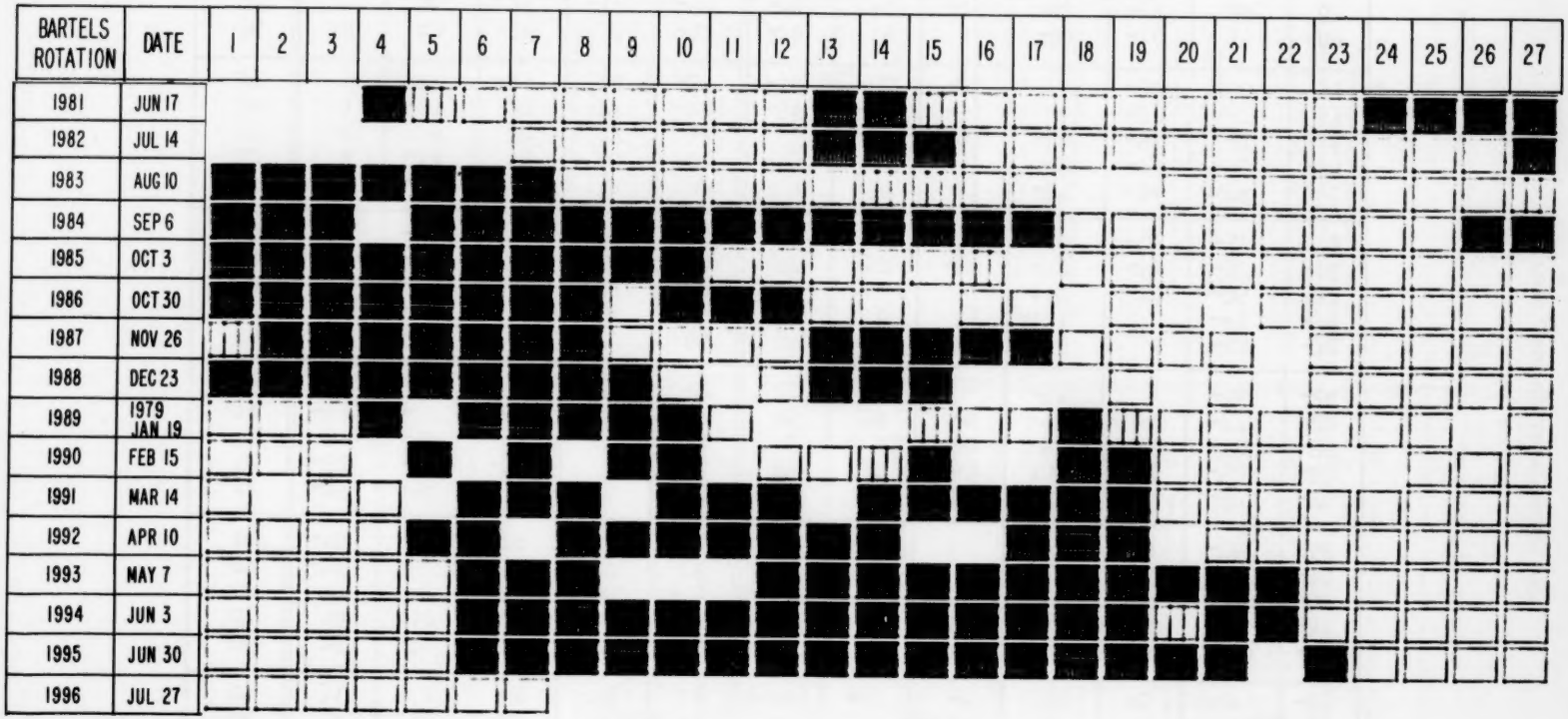
BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1979	APR 29		TA		*		TA	AT AT	TA		-	-	T*							TA TA			AT					
1980	MAY 26				TA		AT	AT				-				AT	TA				-					-	-	-
1981	JUN 22	TA					A*					-	TA	TA TA		AT			*				*	AT	AT -		AT	
1982	JUL 19									TA							-	-		TA				AT	AT *		TA	
1983	AUG 15					TA			AT		AT AT			AT	TA						A*							TA	
1984	SEP 11			TA		AT				TA	T*						A*		-				-			A*	TA -	
1985	OCT 8	*	TA		T*		AT				-	-	-						TA	TA -		AT		-				
1986	NOV 4		-				-	AT -	-		-	-						*	AT	-		AT	AT	AT	AT			
1987	DEC 1	AT	AT	-			-		-		-	TA	-	-	AT -	-	AT -	TA -	-	A*	-		*		-	AT -	-	
1988	DEC 28		-	-	-	-			-	AT *			TA	TA T*		-	AT -	-	TA			-	TA -			-	TA	-
1989	1979 JAN 24		-			*		TA			TA		TA							*					-		AT	
1990	FEB 20		TA	-	TA -		TA			-	TA -	TA	TA			TA A*		TA A*		TA A*				A*				
1991	MAR 19		AT			AT		T*						*	-	-	-	-	TA -		AT	T*	TA	TA -	A*	-		TA A*
1992	APR 15		A*	TA T*	AT			TA TA			T*						TA	*	-	-	AT -	TA			A*		-	TA
1993	MAY 12									-	-		AT			*		TA			AT AT					- -		- -
1994	JUN 8	TA	TA A*		TA						-	AT		-					T*	-	TA		TA T*			AT T*	-	TA
1995	JUL 5	TA	TA	AT		TA		AT A*	TA		TA -			TA		AT				*				TA T*				TA

▨ = definitely towards the sun □ = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

Note: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the sun which affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

	1978					1979						
DAY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY
01	40	26	-11	-18	-72	11	.	-36	-4	26	41	97
02	39	32	-20	-21	-39	.	-1	.	16	13	82	86
03	42	15	-14	-36	-7	15	30	.	57	6	137	70
04	39	18	-8	-28	17	-6	27	-24	44	10	115	35
05	31	2	-3	-19	19	-25	-13	-6	11	45	104	-33
06	29	-24	-7	-12	9	-26	1	46	9	68	78	-61
07	30	-12	-20	3	5	.	50	64	14	101	15	-81
08	17	-7	-29	-6	-15	.	88	56	67	134	-27	-80
09	-11	.	-37	-17	-26	.	59	.	102	126	-50	-70
10	-10	-35	-29	-3	-37	27	39	.	124	75	-76	-68
11	-15	-34	-32	5	-19	.	40	21	138	31	-82	-75
12	-22	-42	-14	9	-16	27	30	63	100	-13	-52	-23
13	-33	-36	2	.	13	.	.	100	51	-66	-52	-23
14	-43	-27	7	16	31	45	78	106	-12	-104	-37	-20
15	-31	-26	8	20	43	21	62	.	-51	.	-28	-24
16	-9	-36	9	.	65	36	27	24	.	.	-42	-30
17	5	-48	5	34	.	48	6	45	-121	.	-43	-26
18	13	-44	-1	42	59	59	.	.	-117	-27	-35	-32
19	7	-50	.	.	30	37	-52	-56	-72	-29	-32	-16
20	7	-33	4	55	18	18	.	-81	-40	-36	-37	-10
21	5	-21	3	35	32	9	-86	-81	-27	-34	-24	.
22	4	-14	19	40	27	-15	.	.	-32	-43	0	-16
23	-1	5	20	28	-3	.	-80	-51	-40	-56	-7	6
24	1	31	25	27	-20	-54	-52	-41	.	-51	-7	33
25	5	43	23	18	-26	-64	.	-28	.	-30	10	58
26	18	42	24	2	-32	-70	19	.	-99	-16	17	69
27	.	40	29	-17	-63	-64	10	-29	-92	-17	29	83
28	.	29	30	-48	-51	-27	0	-36	-57	-4	47	92
29	41	15	17	-61	-36	12		-12	.	19	64	90
30	41	2	-3	-65	-22	.		-26	3	10	93	82
31	35		-16		-21	.		-28		9		53

DOT SYMBOL ENTRY INDICATES NO DATA AVAILABLE FOR THE DAY.

BOULDER GEOMAGNETIC SUBSTORM LOG

JULY 1979

DATE	ONSET TIME	DIRECTION	COMMENTS
01	1155	West	Weak SS
02			Quiet day
03			Slow positive increase began at 0605 UT on H component at all mid- and low-latitude stations and continued until 0905 UT. At 0905 UT a strong equatorial current began. Also at this time, the field became active throughout the network with no distinctive SS activity.
04	0355		Field remained active through 0910 UT. Slow onset with numerous injections; final recovery at 0910 UT.
05			Field became unsettled after 0800 UT: no distinctive SS activity.
06	0700	East	
	0825	West	
	1025	West	
	1150	West	
	1931		Sharp positive impulse on H component at mid- and low-latitude stations. Field disturbed through 07/2000 UT.
07	0730	≃center	Onset of strong SS containing several particle injections. Final recovery at 1730 UT.
08			Field unsettled throughout the day with no significant SS activity.
09			Field intermittently unsettled; no significant SS activity.
10			Field intermittently unsettled; no significant SS activity.
11	0525	East	Weak SS
	0800	≃center	Weak SS; several minor injections with final recovery at 1110 UT.
12	1245		Small positive impulse on H component at all mid- and low-latitude stations.
	1615		Slow onset
13	1040		Onset of active period lasting through 2000 UT. Numerous small SS and particle injections during this period. Strongest response occurred at 1410 UT. Field unsettled throughout the day.
14	2330	East	Field became active after 1900 UT. Boulder in partial ring current sector.
15			Field active almost all day. Sporadic localized minor SS activity; no SS activity affected entire network.
16	0730	East	
17	0350	East	1st of double onset.
	0410	East	2nd of double onset.
	1030	West	
	2050		Start of active field conditions; no distinctive SS activity.
18	0045	East	Weak SS; Boulder in partial ring current sector.
	0530	East	
	0630	≃center	
	1045	West	
	1130	West	
19	0330	East	1st of double onset.
	0415	East	2nd of double onset.
	0715	West	Weak SS
	1250	West	
20	0455	East	
	0920	West	Weak SS
	1015	West	1st of double onset.
	1050	West	2nd of double onset.
	1220	West	1st of double onset; weak SS.
	1240	West	2nd of double onset.
	1850		1st of double onset; strong SS from Inuvik to Sachs Harbour.
	1845		2nd of double onset; strong SS at Johnson Point.
21	0950	West	
22			No distinctive SS activity.
23	0440	East	
24			No distinctive SS activity.
25			Quiet day.
26			Magstorm began at 1833 UT with ssc. Main phase ring current established after 2145 UT.
27	1647		Magstorm ended 0500 UT. Positive impulse on H component at low-latitude stations. Field became active along Alaska Chain from Inuvik northward.
28	0055	East	Onset of broad SS lasting through 0405 UT. Variable responses over network stations.
29			Field active after 0920 UT with no distinctive SS activity.
30	0955		SS along auroral oval stations, Island Lake to Norman Wells.
31			Quiet day.

DOT SYMBOL ENTRY INDICATES NO DATA AVAILABLE FOR THE DAY.

SGD 420 Part I (Prompt)

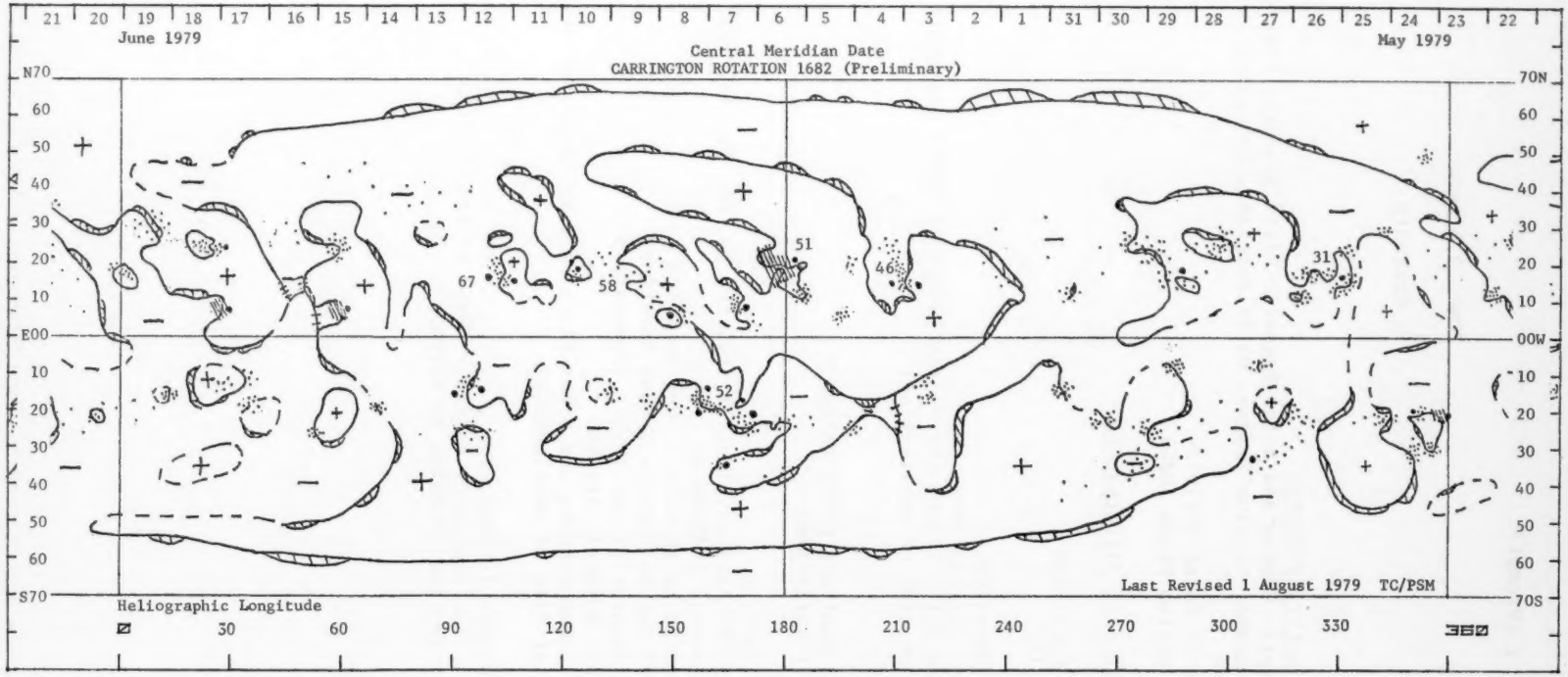
JUNE 1979 DATA

Contents

	Page
Daily Solar Activity Center	
Hα Synoptic Charts and Solar Magnetic Field Synoptic Charts	44-49
Magnetograms, Calcium Plages, Hα Filtergrams, Sunspots, and Corona	50-109
Regions of Solar Activity	110-121
Daily Calcium Plage Index	121
Sudden Ionospheric Disturbances	122-123
Solar X-ray Radiation	
Solrad 11	124-138
Solar Radio Emission	
Spectral Observations	139-154
Selected Solar Events (by Radioheliograph) (Data not available at time of publication)	
Cosmic Rays	
Neutron Monitors Daily Values	155
Chart of Variations	156-159
Geomagnetic Indices	
Geomagnetic Activity Indices (Kp, Kn, Ks, Km, Cp, Ap, aa)	160
Daily Average Indices Ap	161
Chart of Kp by Bartels 27-day Rotation	162
Chart of Dst by Bartels 27-day Rotation	163
Hourly Equatorial Dst Values (Provisional)	164
Principal Magnetic Storms	165
Sudden Commencements and Solar Flare Effects (Data not available at time of publication)	
Radio Propagation Indices	
Transmission Frequency Ranges - North Atlantic Path	166-167
Quality Indices on Paths to Germany	168

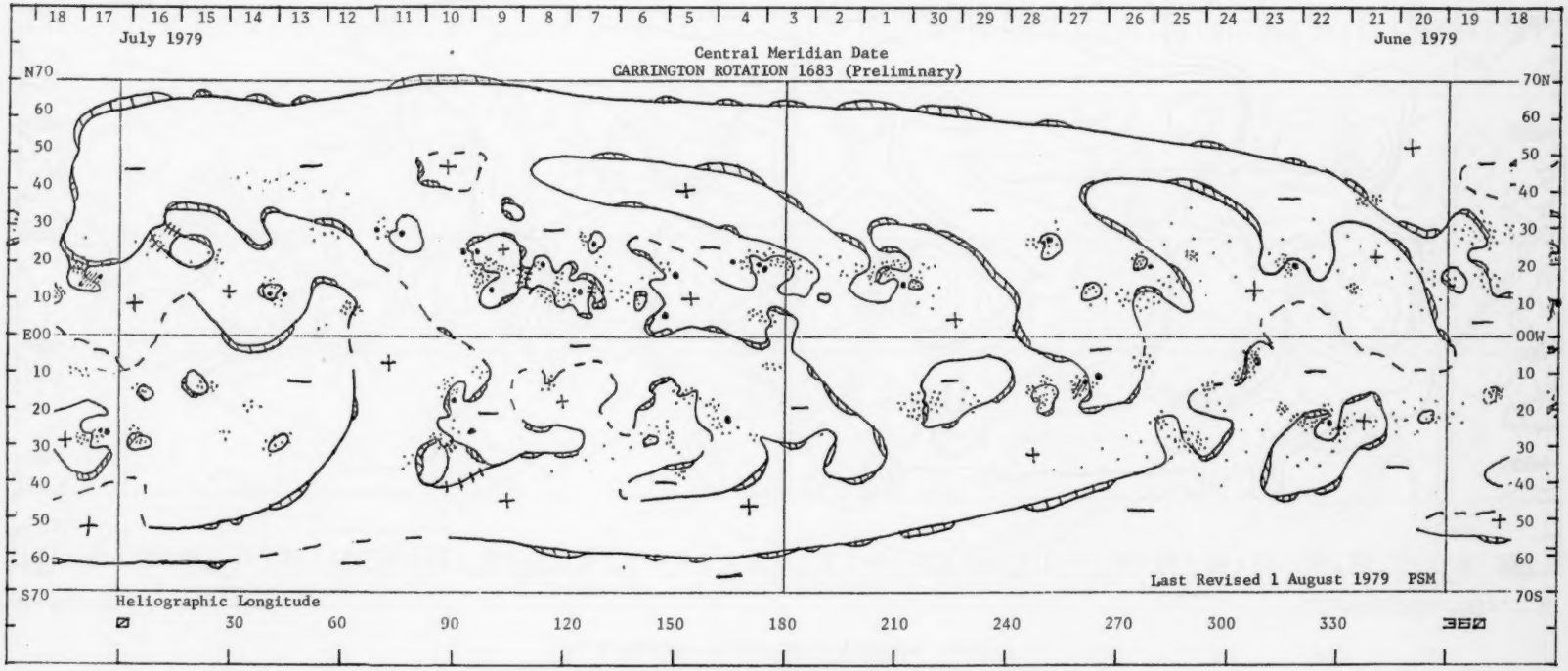
Hα SYNOPTIC CHART

CARRINGTON ROTATION 1682 (PRELIMINARY)



Hα SYNOPTIC CHART

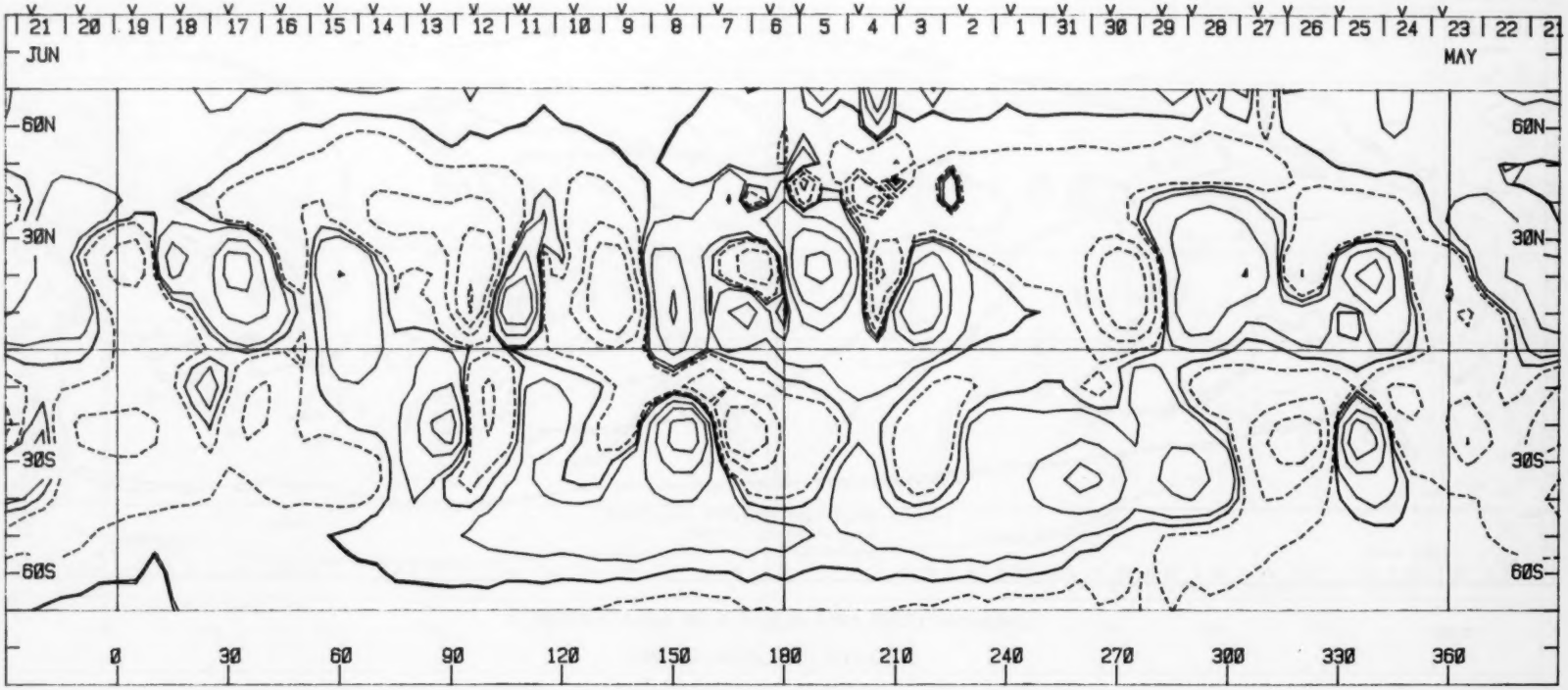
CARRINGTON ROTATION 1683 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1682

Stanford Solar Observatory

0.±100.200.500... μT

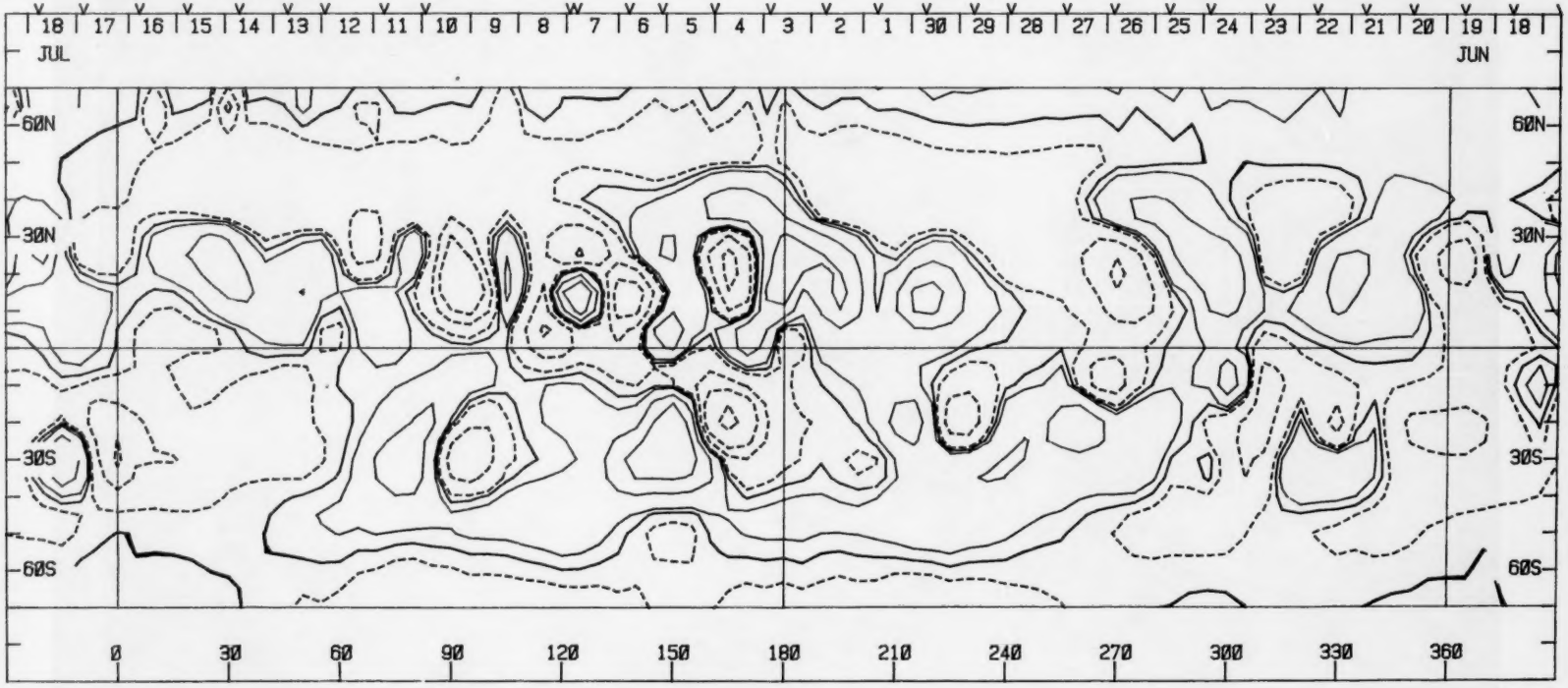


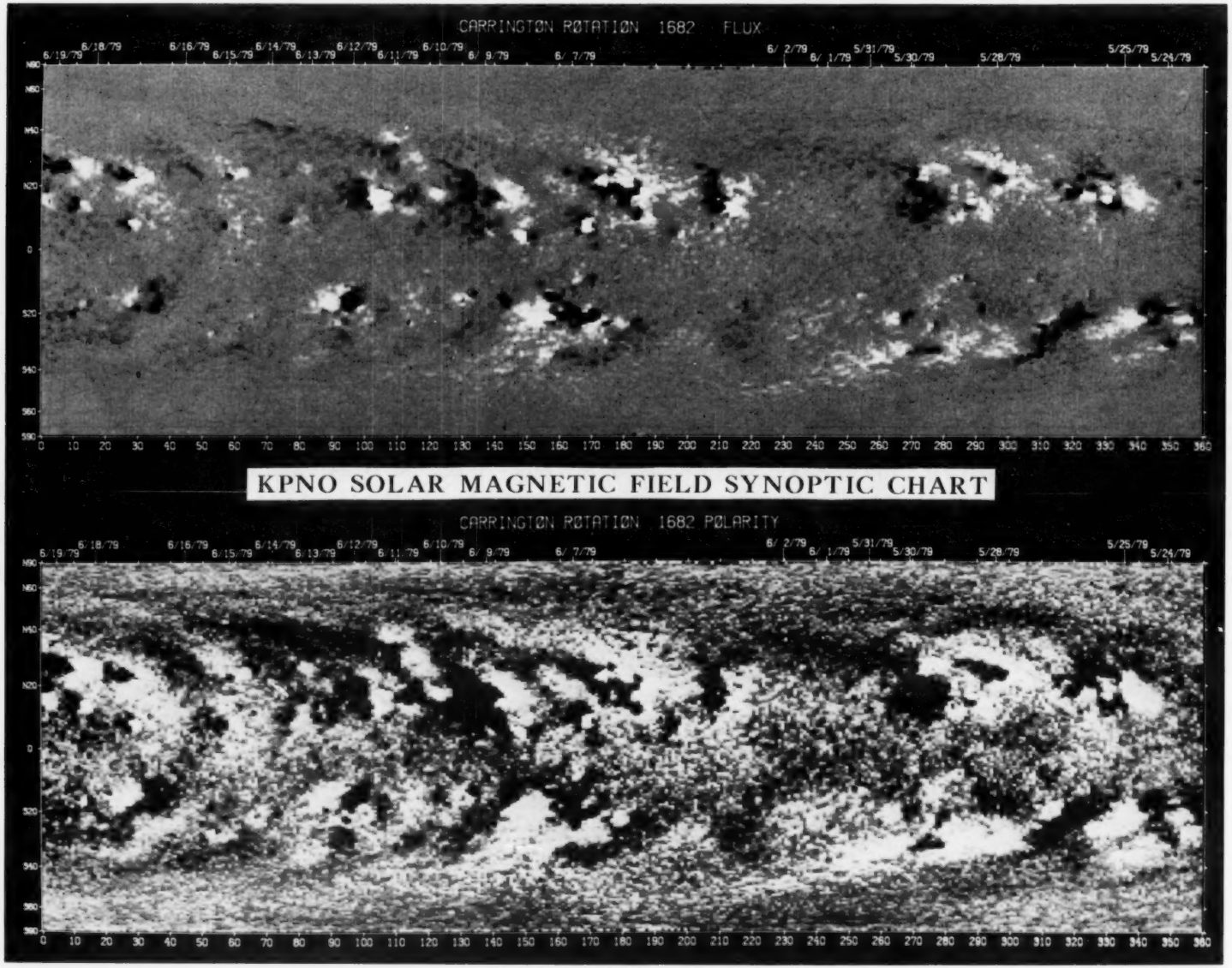
SOLAR MAGNETIC FIELD SYNOPTIC CHART

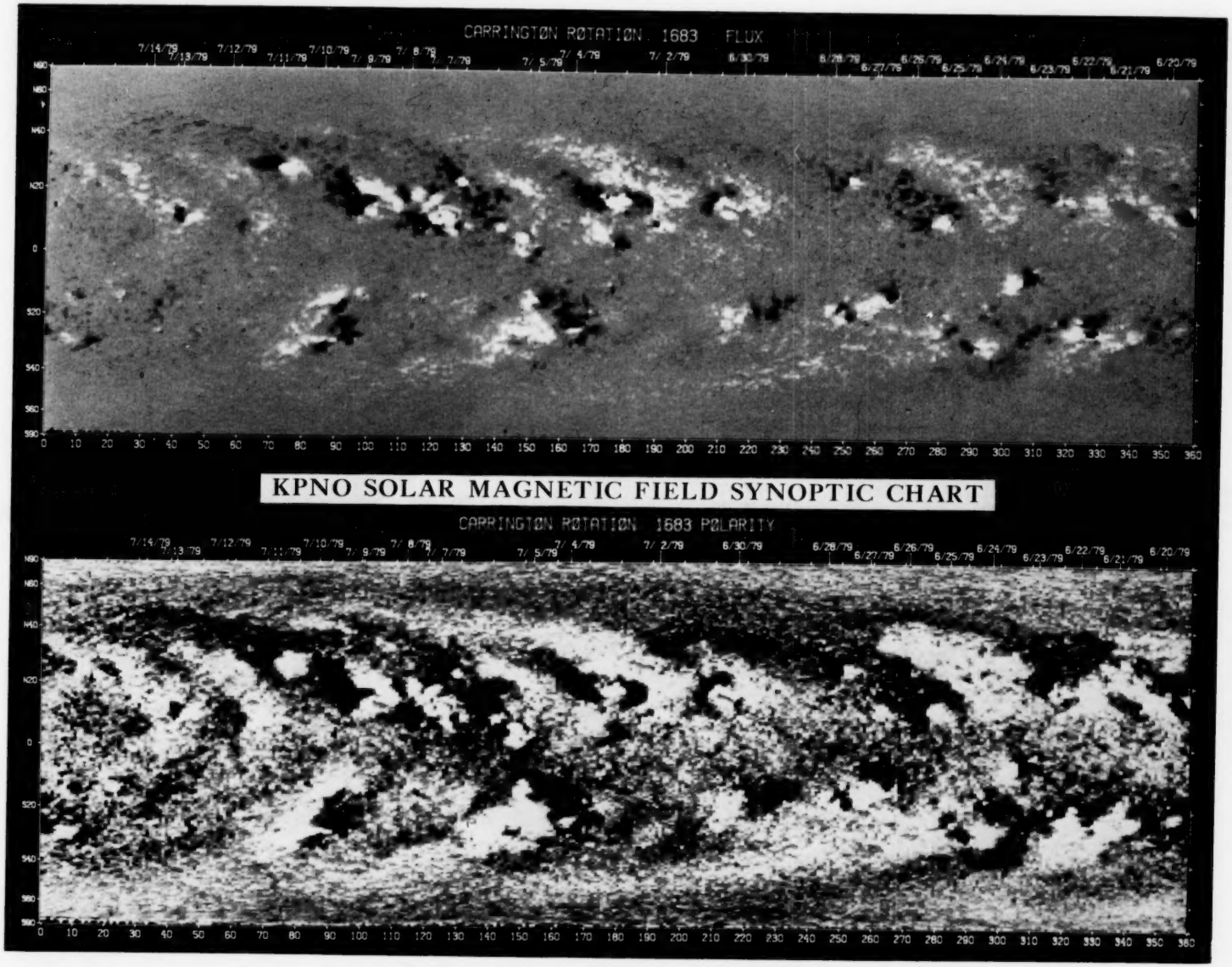
CARRINGTON ROTATION 1683

Stanford Solar Observatory

0,±100,200,500... μT



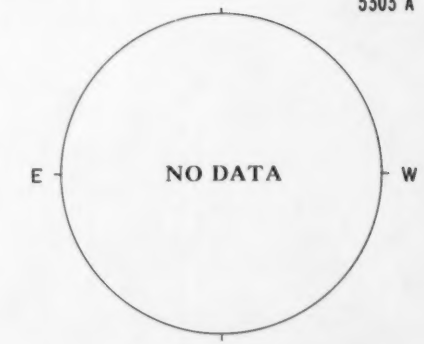

CARRINGTON ROTATION 1682 FLUX
6/19/79 6/18/79 6/16/79 6/15/79 6/14/79 6/13/79 6/12/79 6/11/79 6/10/79 6/ 9/79 6/ 7/79 6/ 2/79 6/ 1/79 5/31/79 5/30/79 5/28/79 5/25/79 5/24/79
N80 N60 N40 N20 0 S20 S40 S60 S80
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360
KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1682 POLARITY
6/19/79 6/18/79 6/16/79 6/15/79 6/14/79 6/13/79 6/12/79 6/11/79 6/10/79 6/ 9/79 6/ 7/79 6/ 2/79 6/ 1/79 5/31/79 5/30/79 5/28/79 5/25/79 5/24/79
N80 N60 N40 N20 0 S20 S40 S60 S80
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360


CARRINGTON ROTATION 1683 FLUX
7/14/79 7/13/79 7/12/79 7/11/79 7/10/79 7/ 9/79 7/ 8/79 7/ 7/79 7/ 5/79 7/ 4/79 7/ 2/79 6/30/79 6/28/79 6/27/79 6/26/79 6/25/79 6/24/79 6/23/79 6/22/79 6/21/79 6/20/79
N80 N60 N40 N20 0 S20 S40 S60 S80
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360
KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1683 POLARITY
7/14/79 7/13/79 7/12/79 7/11/79 7/10/79 7/ 9/79 7/ 8/79 7/ 7/79 7/ 5/79 7/ 4/79 7/ 2/79 6/30/79 6/28/79 6/27/79 6/26/79 6/25/79 6/24/79 6/23/79 6/22/79 6/21/79 6/20/79
N80 N60 N40 N20 0 S20 S40 S60 S80
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360

JUNE 1, 1979 (P=-15.68, B_o=-0.70, L_o=251.09)

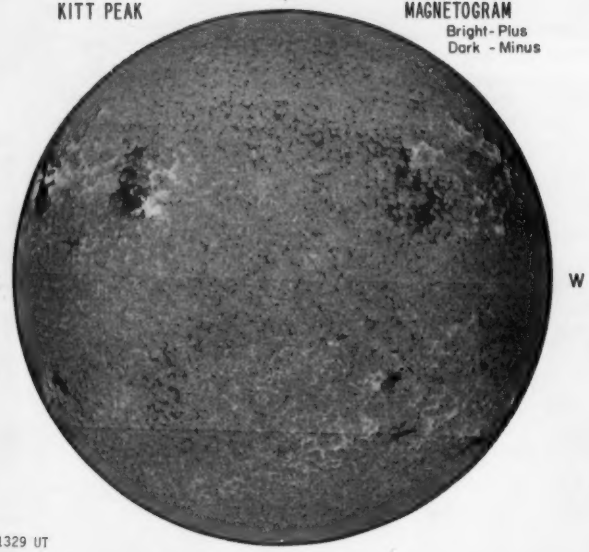
SACRAMENTO PEAK

CORONA (1.15 $R_\odot$)
5303 Å



KITT PEAK

MAGNETOGRAM
Bright-Plus
Dark - Minus

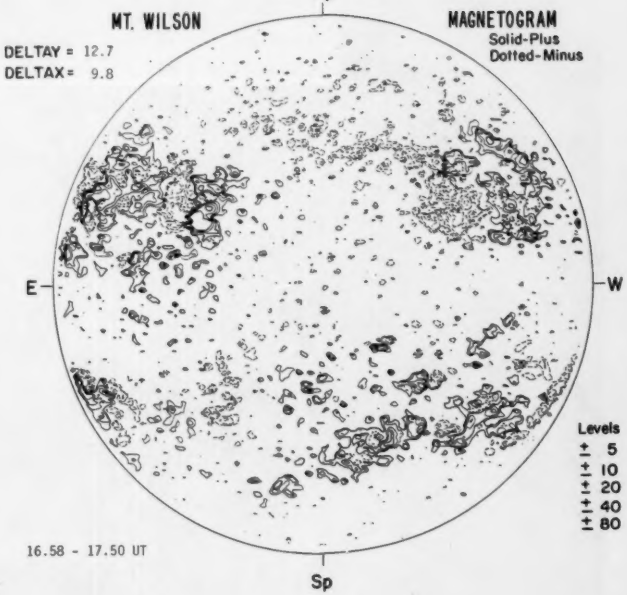


1329 UT

MT. WILSON

DELTAY = 12.7
DELTAX = 9.8

MAGNETOGRAM
Solid-Plus
Dotted-Minus



16.58 - 17.50 UT

01

BIG BEAR

Np

Hα

E

W

Sp

1836 UT

BOULDER

Np

SUNSPOTS

051

046

041

041

031

053

052

052

E

W

PROMINENCES

Sp

1400 UT

1414 UT

McMATH-HULBERT

Np

CALCIUM REPORT

054

036

051

041

046

031

048

056

049

053

045

050

032

044

052

040

034

E

W

Sp

1145 UT

FAIR	M
31-	2000-3.0
32-	1200-2.5
41-	3500-2.5
44-	0500-2.5
46-	5800-3.5
51-	5800-3.5
52-	3300-3.0
56-	2200-3.5

NOSC LA POSTA

Np

2.0 CM

E

W

Sp

2002 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

CALIBRATION

E

W

Sp

2034 UT

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

W

Levels

0 μT

± 50

±100

±200

Sp

1855 UT

51

Jun 79

JUNE 2, 1979 (P=-15.31, B_o=-0.58, L_o=237.86)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright-Plus
Dark - Minus

E W

1357 UT

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DEL.TAY =
DEL.TAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

BIG BEAR

Np

Hα

BOULDER

Np

SUNSPOTS

McMATH-HULBERT

Np

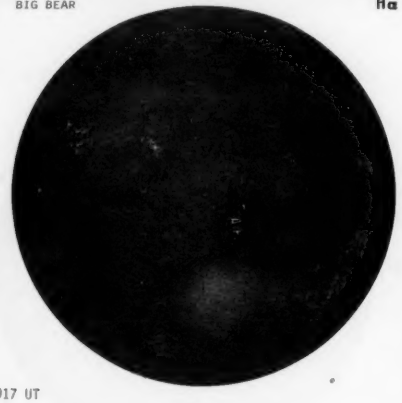
1357 UT

Sp

BIG BEAR

Np

Hα



E

W

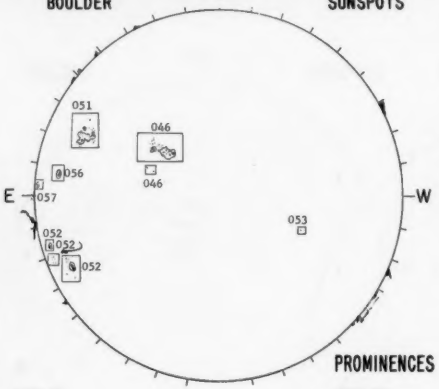
1917 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1240 UT

Sp

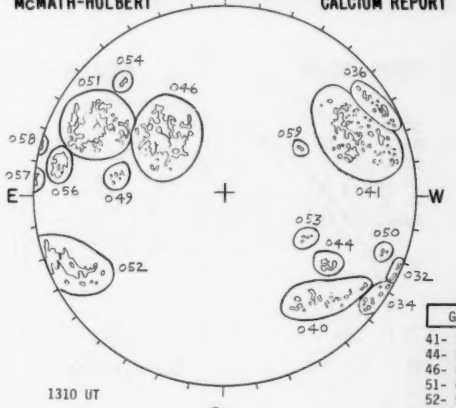
PROMINENCES

1254 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1310 UT

Sp

GOOD	M

41- 3200-2.5
44- 0500-2.5
46- 4800-3.5
51- 6100-3.5
52- 5000-3.5
56- 2200-3.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

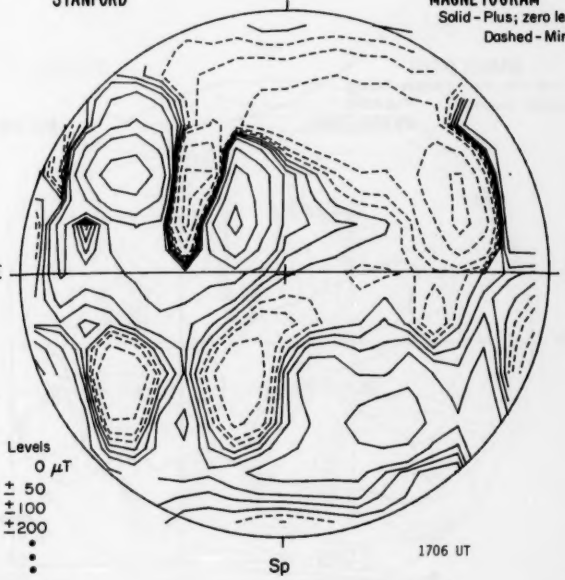
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

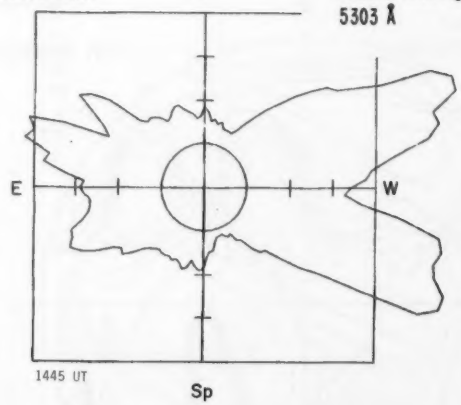
±200

1706 UT

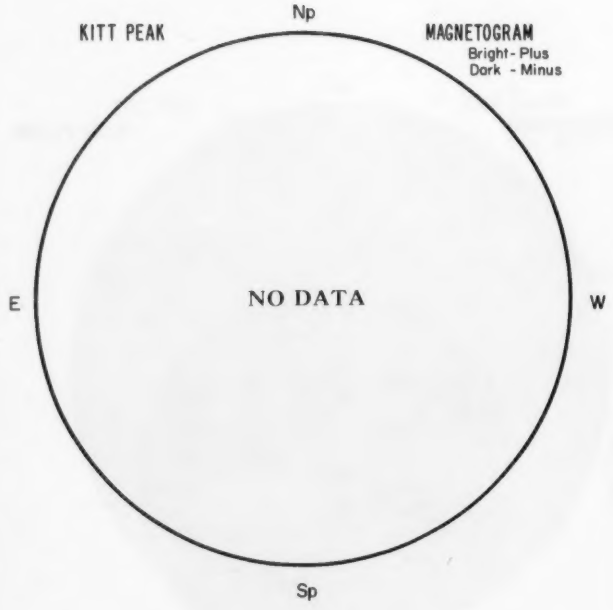
Sp

JUNE 3, 1979 (P =-14.93, B_o =-0.46, L_o =224.62)

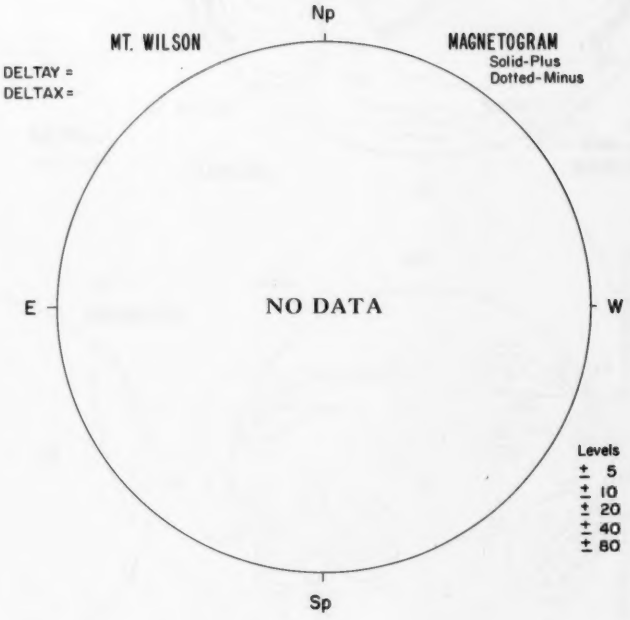
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =

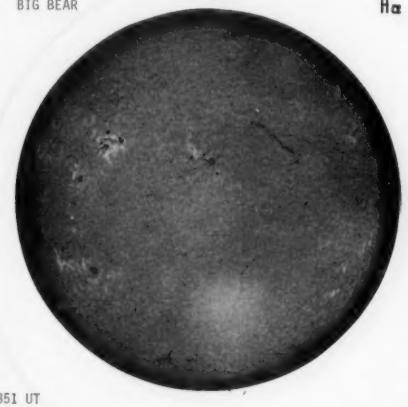


03

BIG BEAR

Np

Hα



E W

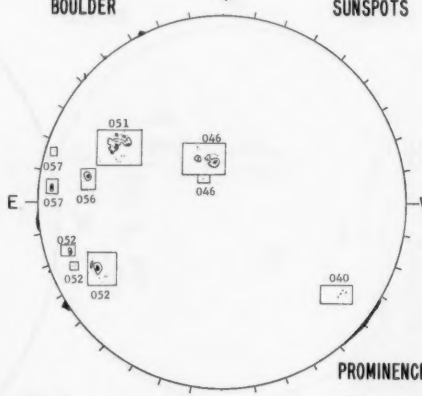
Sp

1851 UT

BOULDER

Np

SUNSPOTS



E W

Sp

1240 UT

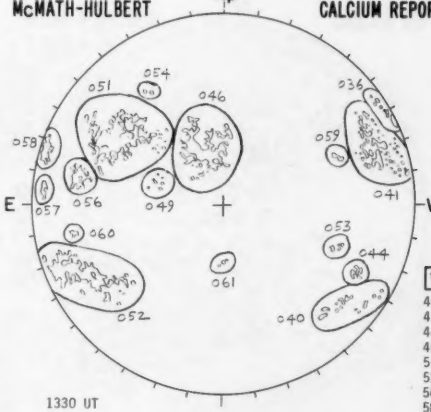
PROMINENCES

1258 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E W

Sp

1330 UT

V	GOOD	M
40-	1600-	2.5
41-	3200-	2.5
44-	0500-	2.5
46-	4500-	3.5
51-	6400-	4.0
52-	6300-	3.5
56-	1700-	3.0
58-	2000-	3.0
60-	0200-	3.0

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

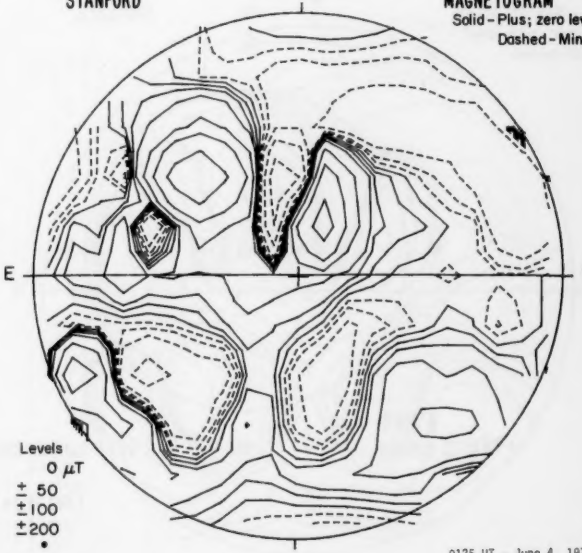
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Sp

Levels

0 μT

± 50

±100

±200

0125 UT - June 4, 1979

55

Jun 79

JUNE 4, 1979 (P=-14.55, B_o=-0.34, L_o=211.39)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E — NO DATA — W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

E — NO DATA — W

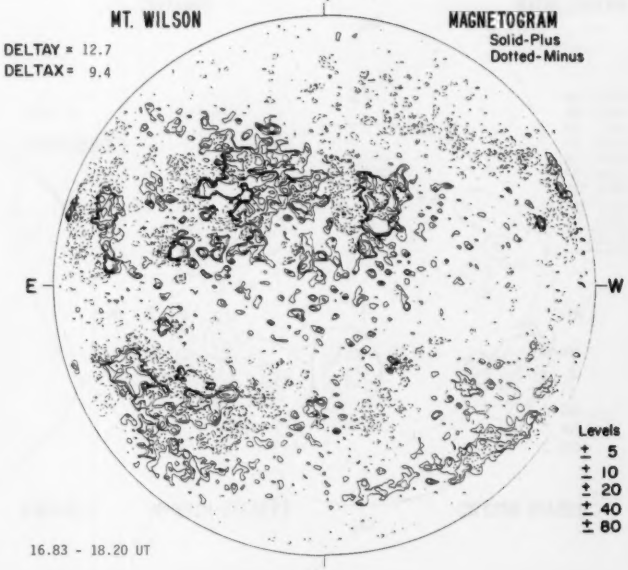
Sp

MT. WILSON

Np

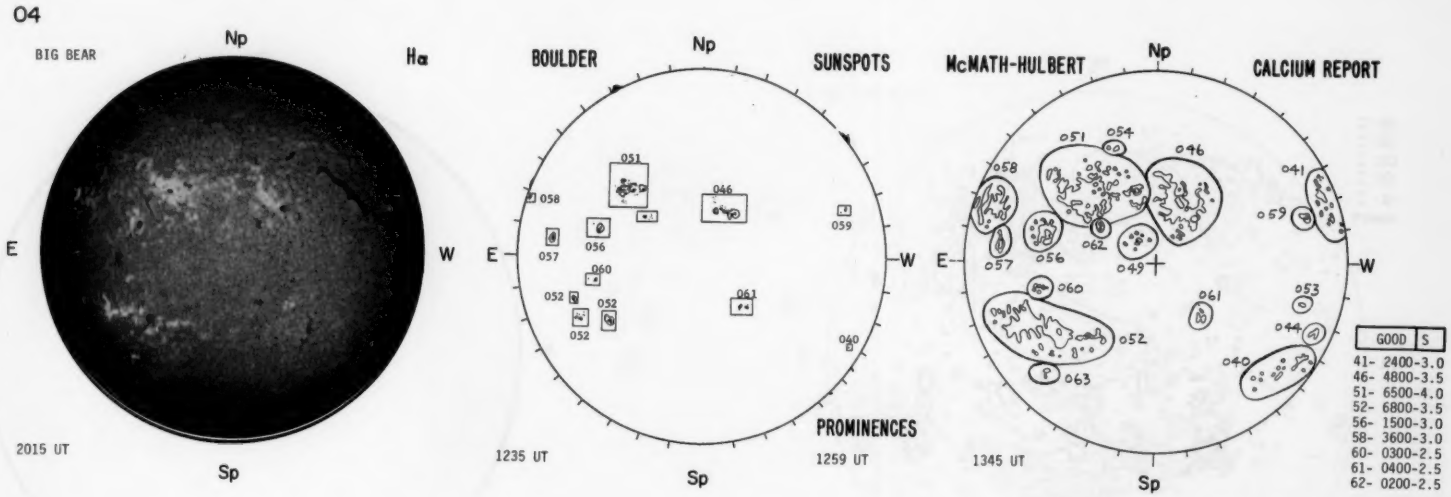
MAGNETOGRAM
Solid-Plus
Dotted-Minus

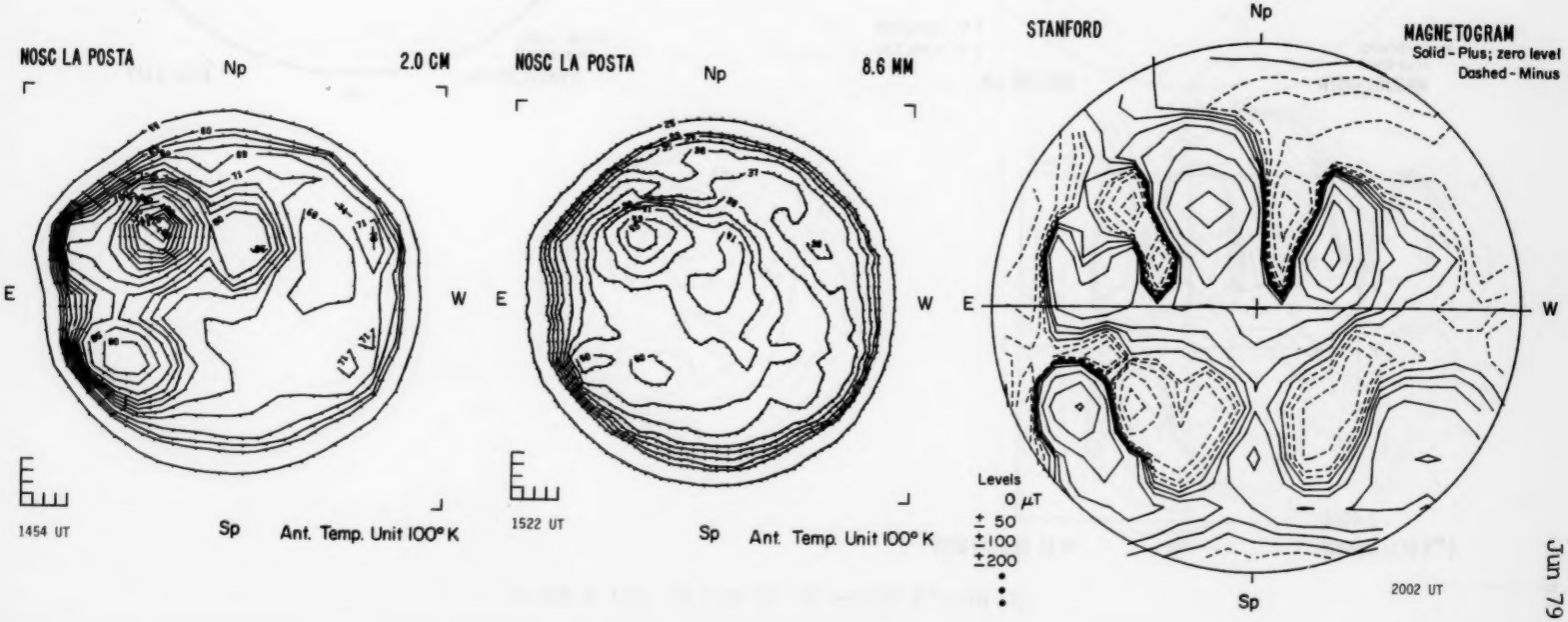
DELTAY = 12.7
DELTAX = 9.4



16.83 - 18.20 UT

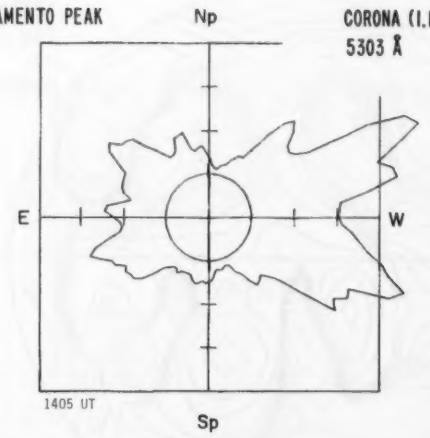
Sp

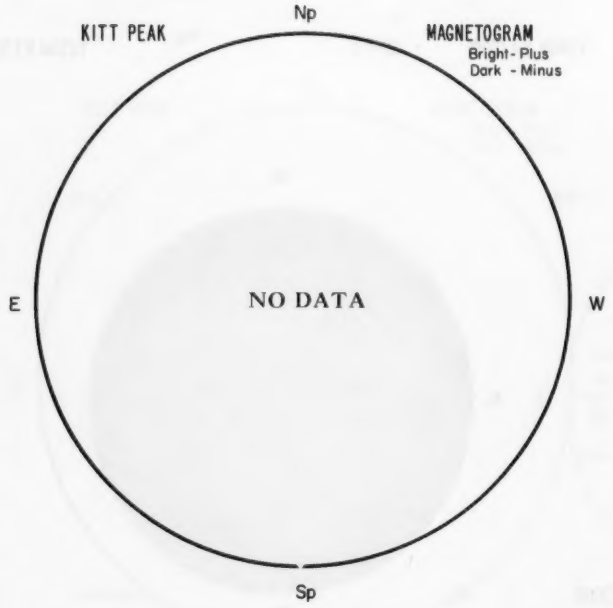

04
BIG BEAR
Np
Hα
E
W
Sp
2015 UT
BOULDER
SUNSPOTS
PROMINENCES
1235 UT
1259 UT
McMATH-HULBERT
CALCIUM REPORT
1345 UT
GOOD S
41- 2400-3.0
46- 4800-3.5
51- 6500-4.0
52- 6800-3.5
56- 1500-3.0
58- 3600-3.0
60- 0300-2.5
61- 0400-2.5
62- 0200-2.5

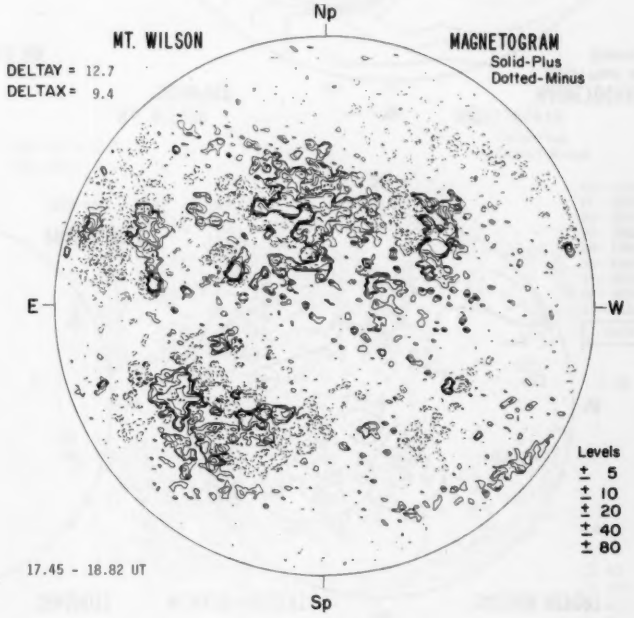

NOSC LA POSTA
2.0 CM
Np
E
W
Sp
1454 UT
Ant. Temp. Unit 100° K
NOSC LA POSTA
8.6 MM
1522 UT
Ant. Temp. Unit 100° K
STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Levels
0 μT
± 50
± 100
± 200
2002 UT

JUNE 5, 1979 (P=-14.16, B_o=-0.22, L_o=198.15)

SACRAMENTO PEAK







05

BIG BEAR

Np

Hα

E

W

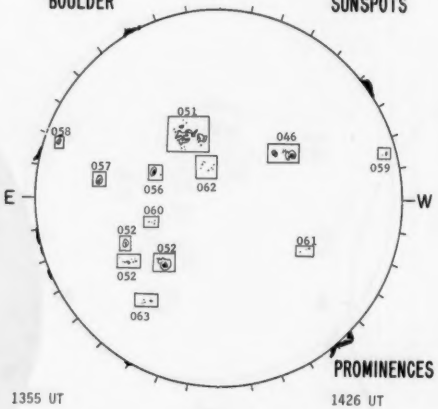
Sp

2039 UT

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

Sp

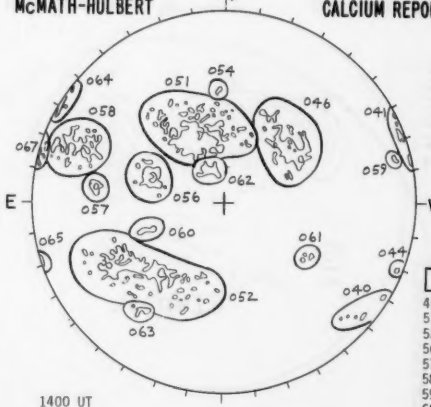
1355 UT

1426 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

Sp

1400 UT

GOOD	S
46-	4500-3.0
51-	6500-3.5
52-	6600-4.5
56-	1500-3.0
57-	0700-2.5
58-	4800-3.5
59-	0400-2.5
60-	0300-2.5
61-	0300-3.0
62-	0800-2.5
63-	0600-3.0

NOSC LA POSTA

Np

2.0 CM

E

W

Sp

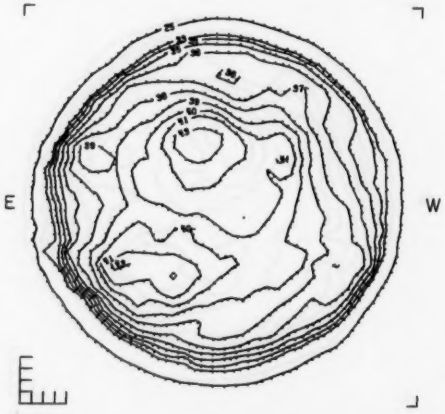
1508 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

Sp

1538 UT

Ant. Temp. Unit 100° K

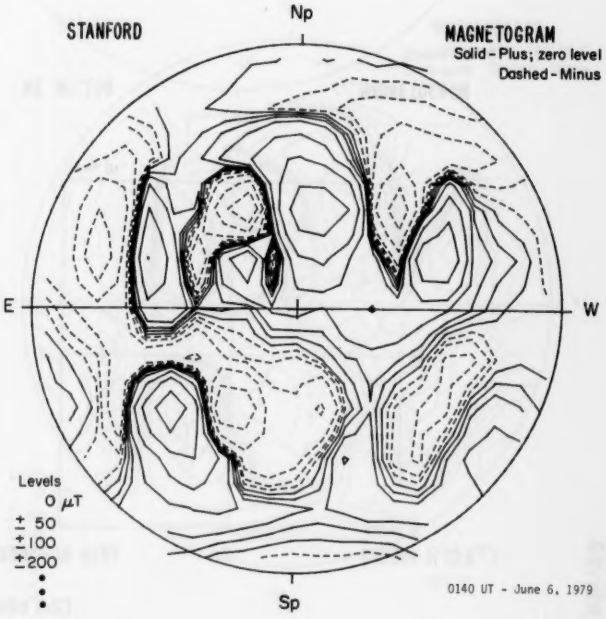
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

Sp

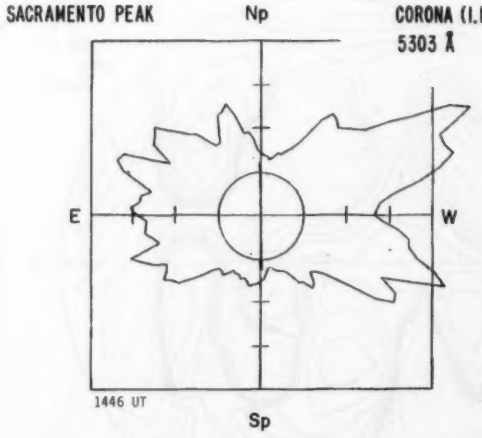
0140 UT - June 6, 1979

59

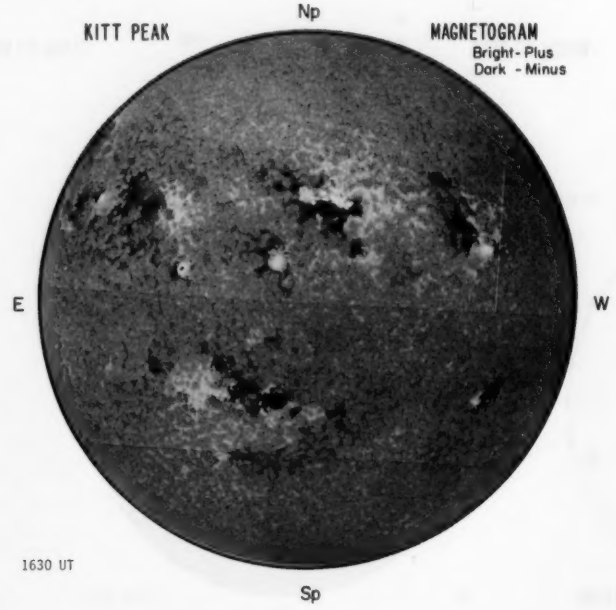
Jun 79

JUNE 6, 1979 (P=-13.77, B_o=-0.10, L_o=184.92)

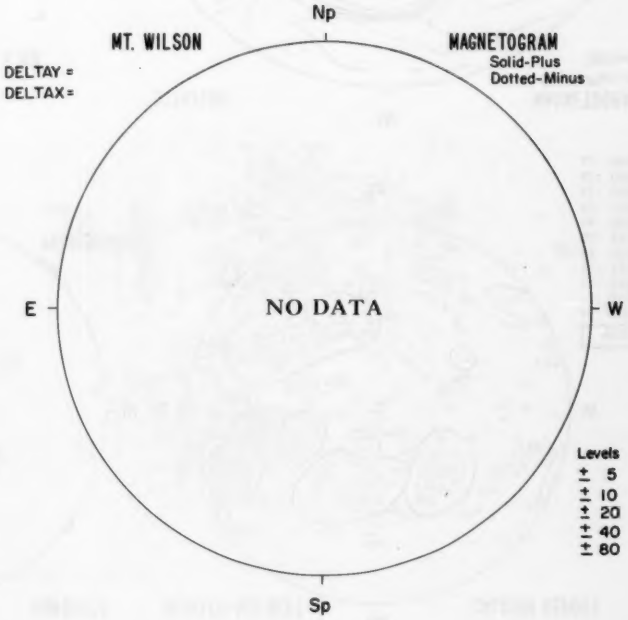
SACRAMENTO PEAK



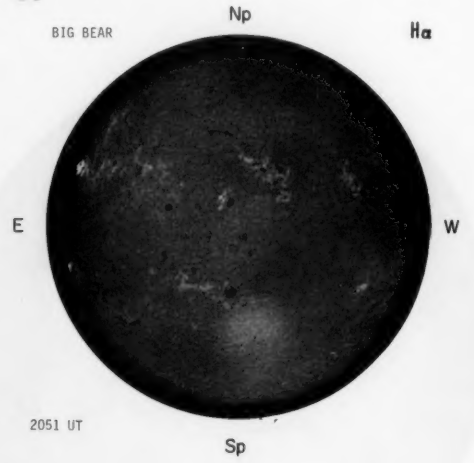
KITT PEAK

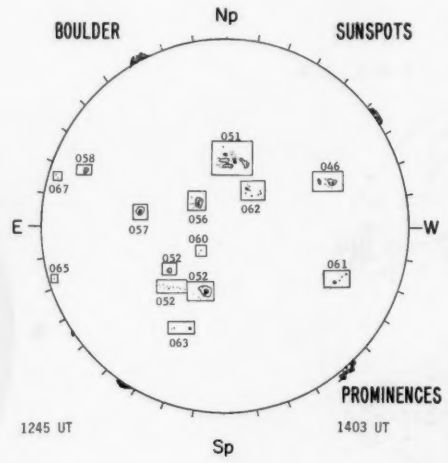


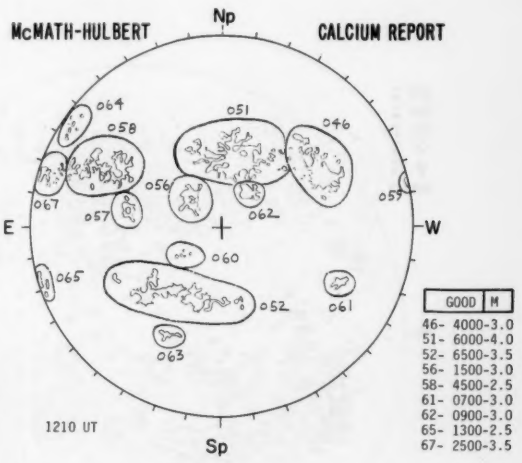
MT. WILSON

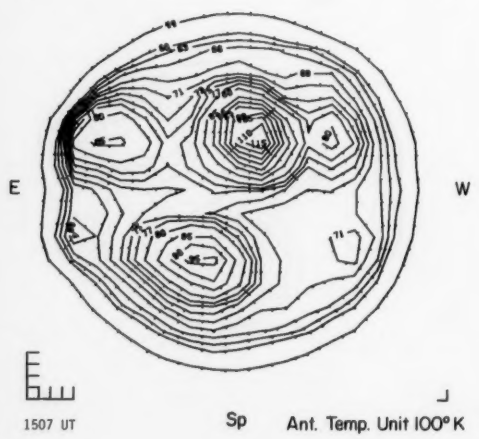


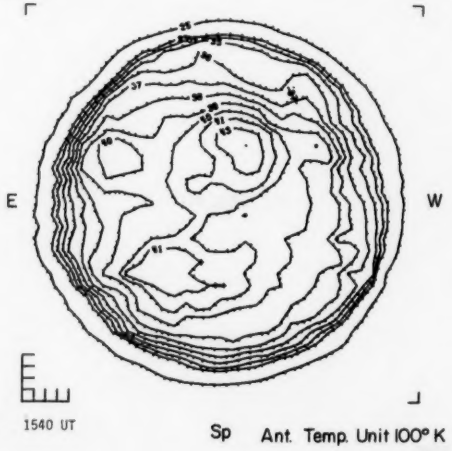
06

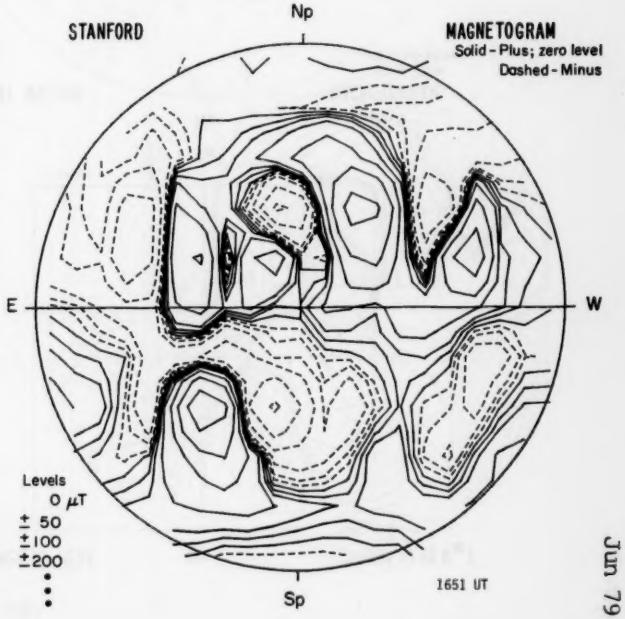

BIG BEAR
Np
Hα
E
W
Sp
2051 UT


BOULDER
Np
SUNSPOTS
E
W
Sp
1245 UT
PROMINENCES
1403 UT


McMATH-HULBERT
Np
CALCIUM REPORT
E
W
Sp
1210 UT
GOOD | M
46- 4000-3.0
51- 6000-4.0
52- 6500-3.5
56- 1500-3.0
58- 4500-2.5
61- 0700-3.0
62- 0900-3.0
65- 1300-2.5
67- 2500-3.5

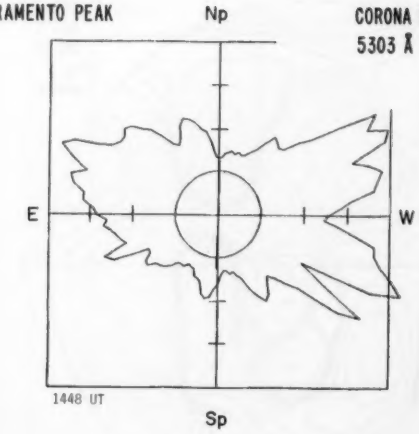

NOSC LA POSTA
Np
2.0 CM
E
W
1507 UT
Sp
Ant. Temp. Unit 100° K

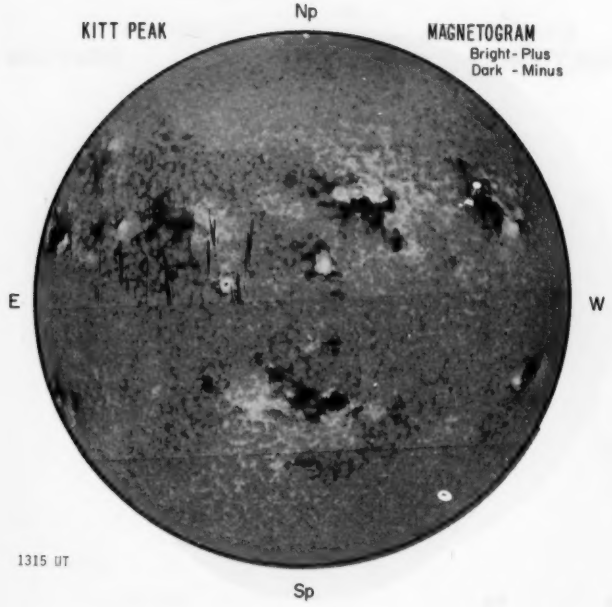

NOSC LA POSTA
Np
8.6 MM
E
W
1540 UT
Sp
Ant. Temp. Unit 100° K

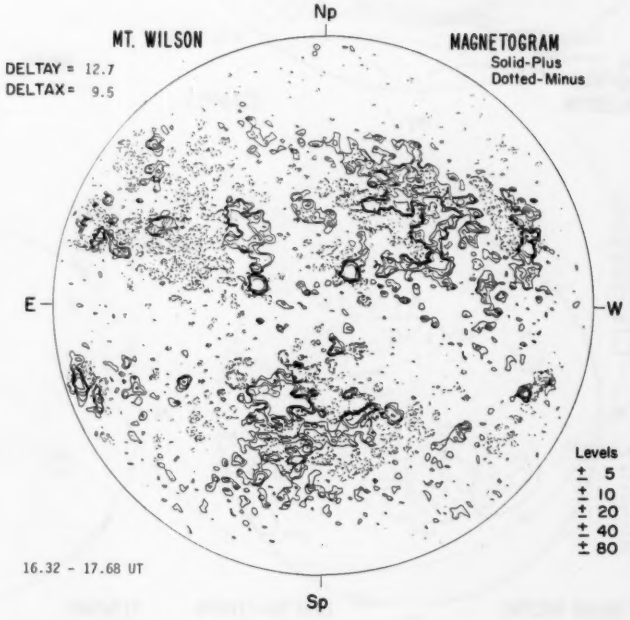

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
Sp
1651 UT

JUNE 7, 1979 (P = -13.37, B_o = 0.03, L_o = 171.68)

SACRAMENTO PEAK





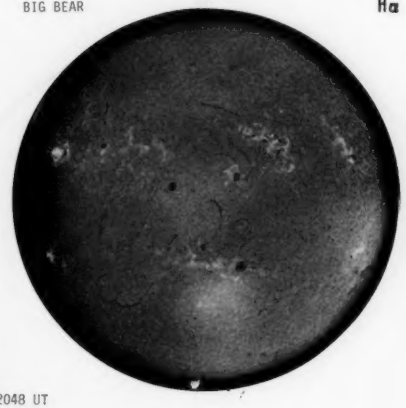


07

BIG BEAR

Np

Hα



E W

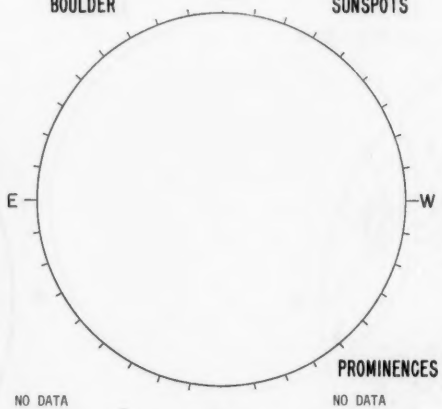
2048 UT

Sp

BOULDER

Np

SUNSPOTS



E W

NO DATA

Sp

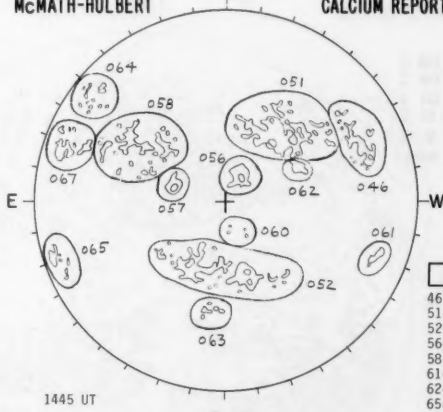
PROMINENCES

NO DATA

McMATH-HULBERT

Np

CALCIUM REPORT



E W

1445 UT

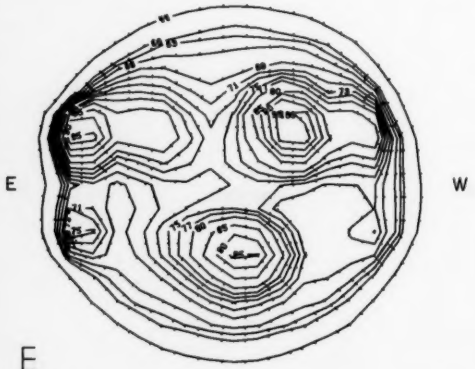
Sp

FAIR	S
46-	3600-3.0
51-	6100-3.5
52-	6300-3.0
56-	1400-2.5
58-	4500-2.5
61-	0800-2.5
62-	0900-2.5
65-	1200-3.5
67-	3600-4.0

NOSC LA POSTA

Np

2.0 CM



E W

1508 UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

CALIBRATION

E W

1541 UT

Sp

Ant. Temp. Unit 100° K

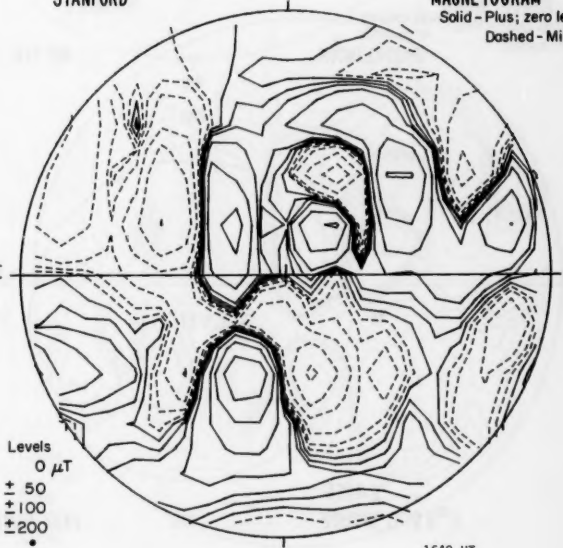
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1648 UT

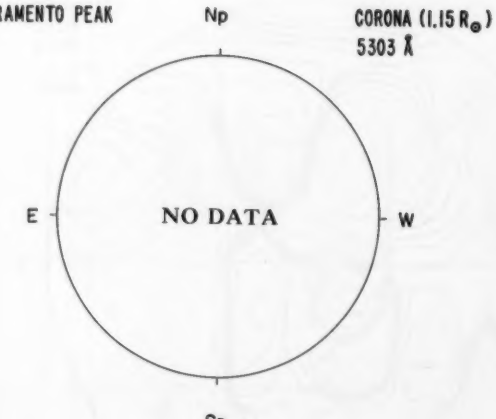
Sp

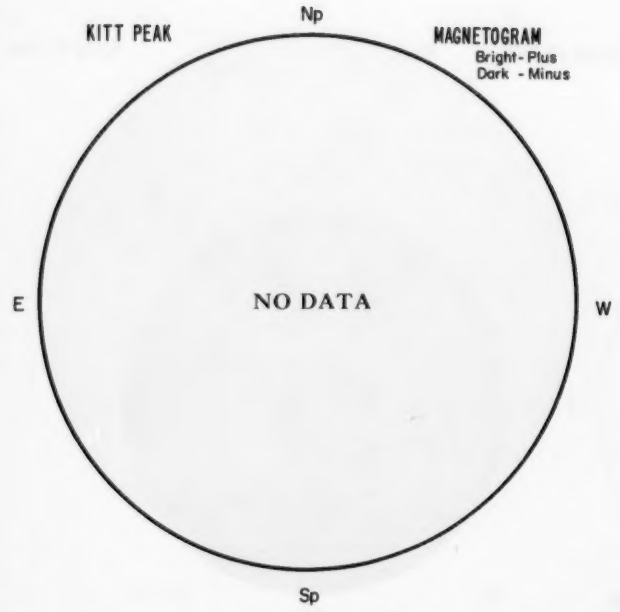
63

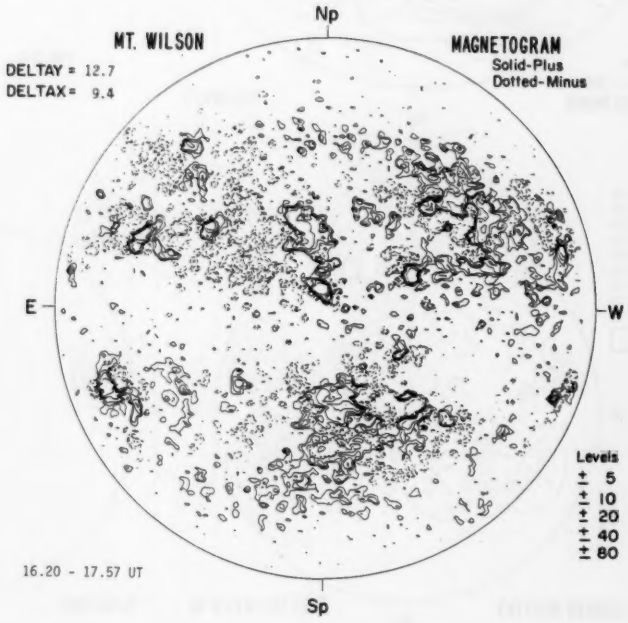
Jun 79

JUNE 8, 1979 (P=-12.97, B_o=0.15, L_o=158.45)

SACRAMENTO PEAK







08

BIG BEAR

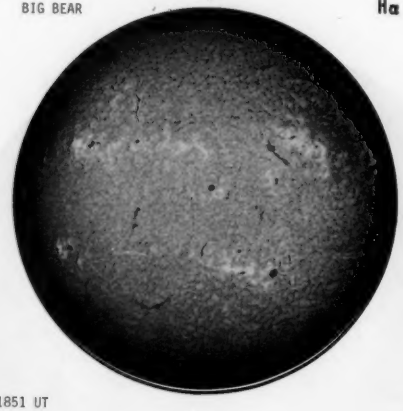
Np

E W

Sp

1851 UT

Hα



BOULDER

Np

E W

Sp

NO DATA

SUNSPOTS

PROMINENCES

NO DATA

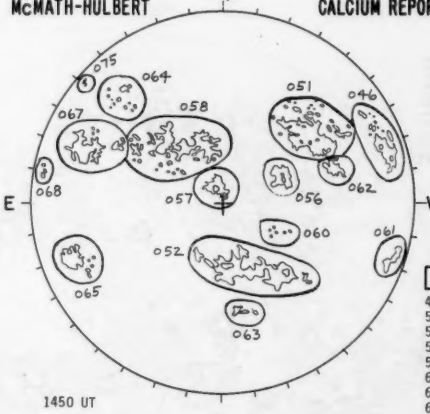
McMATH-HULBERT

Np

E W

Sp

1450 UT



CALCIUM REPORT

FAIR	M
46-	3800-3.0
51-	6000-3.5
52-	6300-3.0
56-	1400-2.5
58-	4500-2.5
61-	1000-3.0
65-	2100-3.0
67-	4000-3.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E W

Sp

1753 UT

Levels

0 μT

± 50

±100

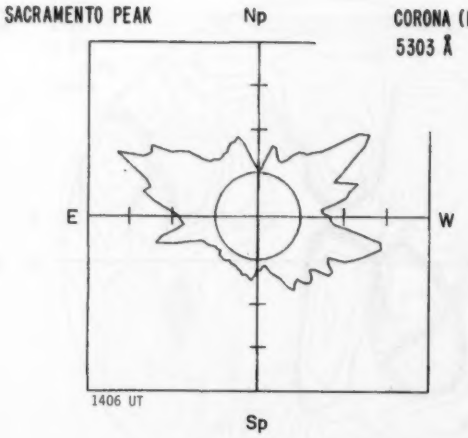
±200

65

Jun 79

JUNE 9, 1979 (P=-12.57, B_o=0.27, L_o=145.21)

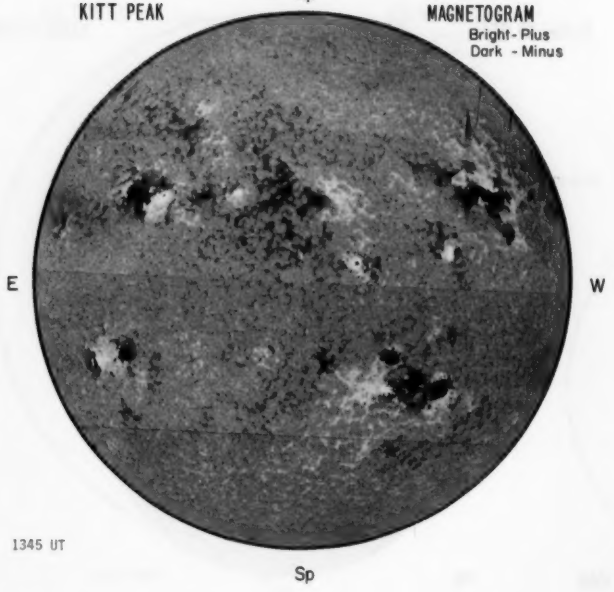
SACRAMENTO PEAK



CORONA (1.15 $R_\odot$)
5303 Å

1406 UT

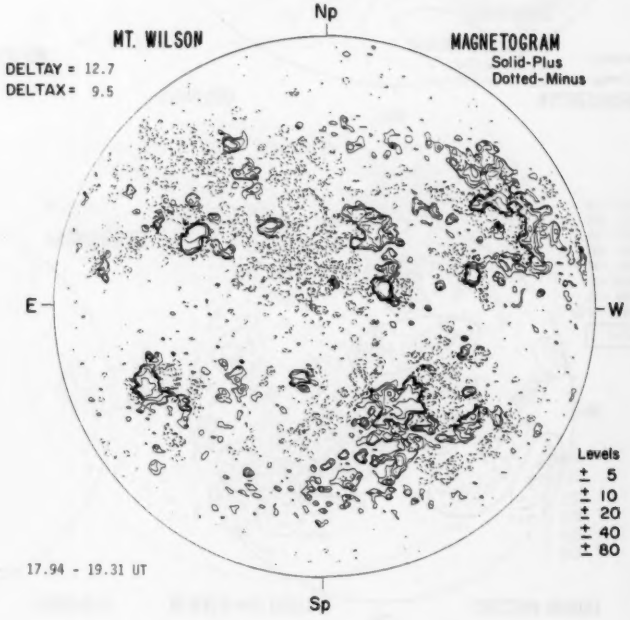
KITT PEAK



MAGNETOGRAM
Bright - Plus
Dark - Minus

1345 UT

MT. WILSON



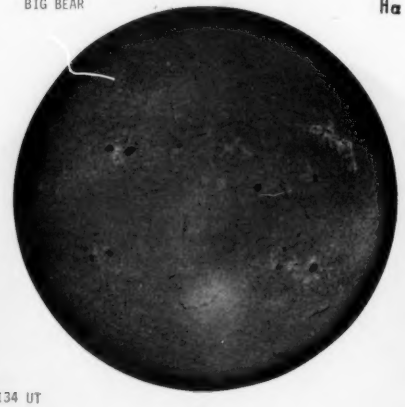
DELTAY = 12.7
DELTAX = 9.5

MAGNETOGRAM
Solid-Plus
Dotted-Minus

17.94 - 19.31 UT

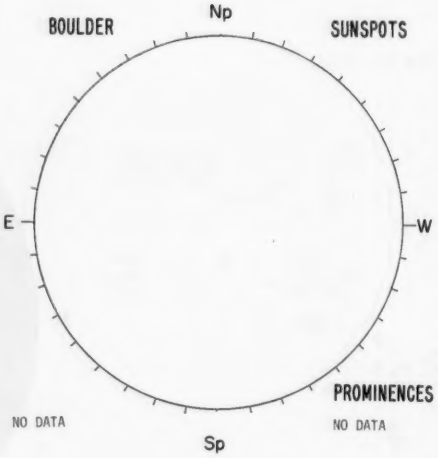
09

BIG BEAR Hα



2134 UT

BOULDER SUNSPOTS

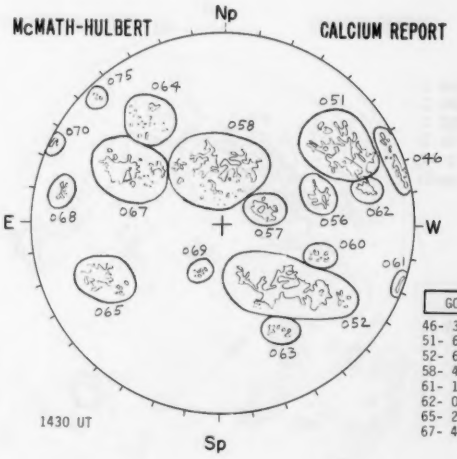


NO DATA

PROMINENCES

NO DATA

McMATH-HULBERT CALCIUM REPORT



1430 UT

GOOD	M
46- 3000-2.0	
51- 6500-3.5	
52- 6500-2.5	
58- 4300-2.5	
61- 1000-2.5	
62- 0900-2.5	
65- 2600-3.5	
67- 4400-3.5	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

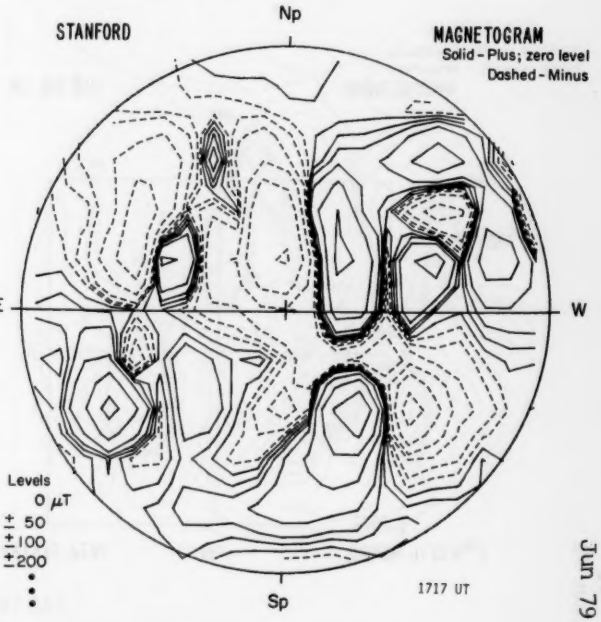
E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

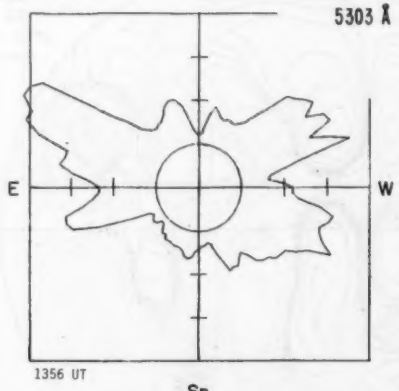


1717 UT

67 Jun 79

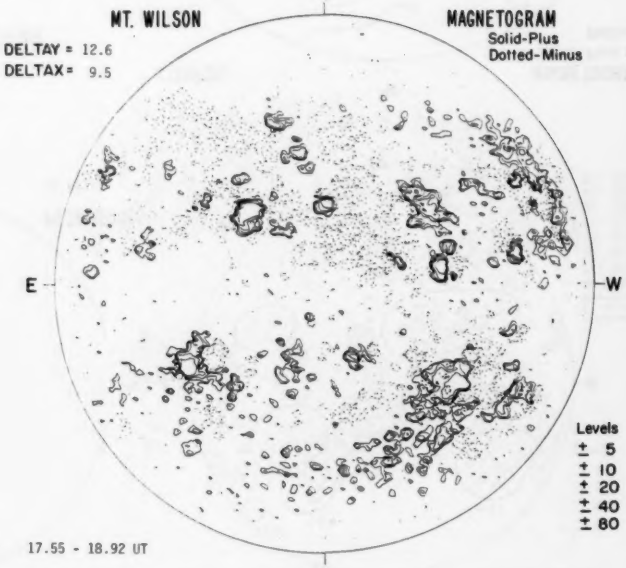
JUNE 10, 1979 (P=-12.16, B_o=0.39, L_o=131.97)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



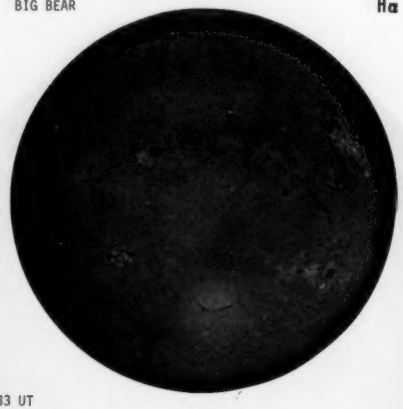
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.5



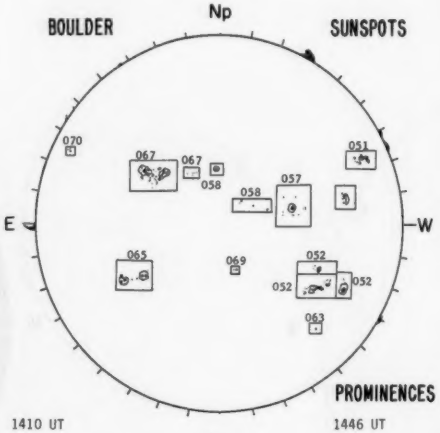
10

BIG BEAR Hα



1833 UT

BOULDER SUNSPOTS

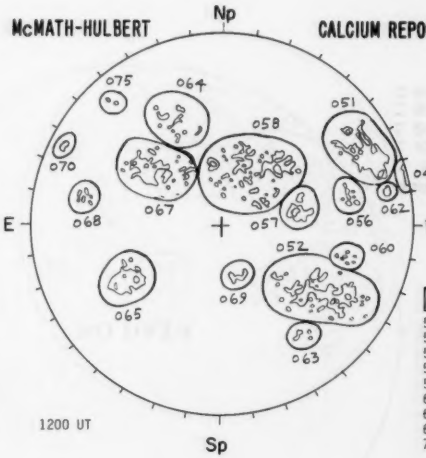


1410 UT

PROMINENCES

1446 UT

McMATH-HULBERT CALCIUM REPORT



1200 UT

FAIR	S
51- 6500-3.5	
52- 6500-3.0	
56- 1000-2.5	
57- 1200-3.5	
58- 4800-2.5	
62- 0800-2.5	
65- 2800-3.0	
67- 4200-3.0	
70- 0800-3.0	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

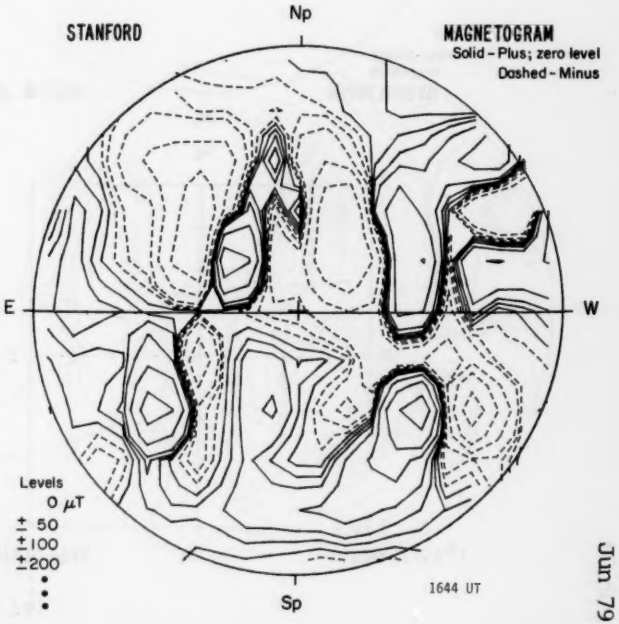
NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

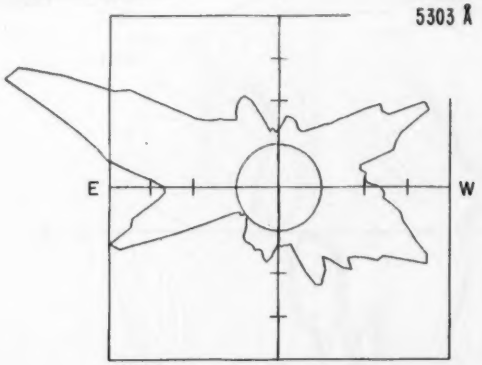


Levels
0 μT
± 50
±100
±200

1644 UT

JUNE 11, 1979 (P=-11.75, B_o=0.51, L_o=118.74)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

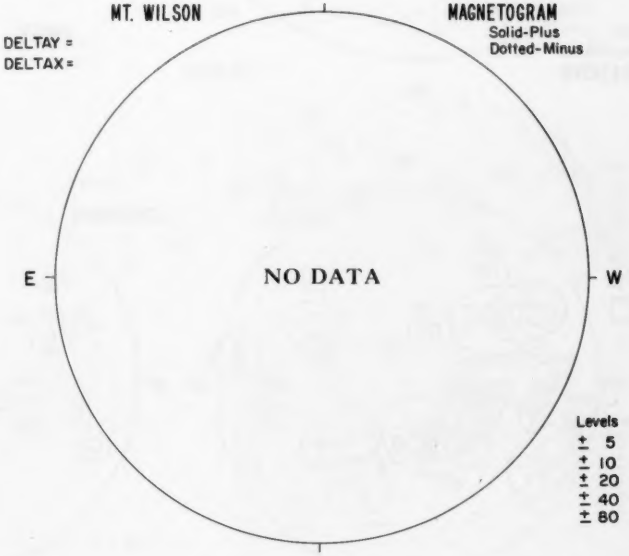


Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

Sp

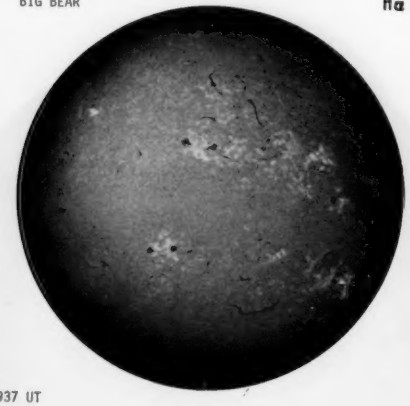
MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =



Sp

II

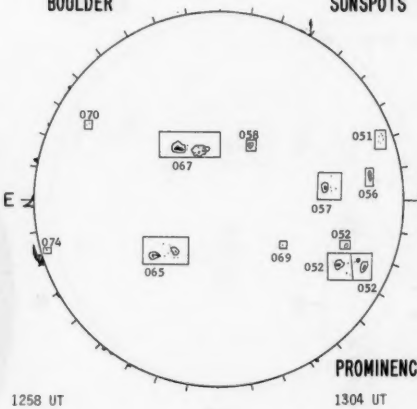
BIG BEAR Np Hα



E W

1937 UT Sp

BOULDER Np SUNSPOTS

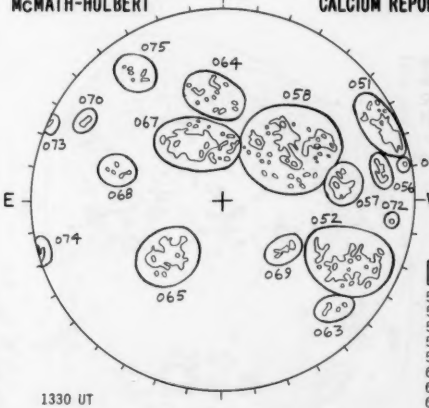


E W

PROMINENCES

1258 UT Sp 1304 UT

McMATH-HULBERT Np CALCIUM REPORT



E W

1330 UT Sp

GOOD	S
51- 6500-3.0	
52- 6800-2.5	
56- 1000-2.5	
57- 1400-3.0	
58- 5100-3.0	
62- 0300-3.0	
65- 3200-3.0	
67- 4600-3.0	
70- 0700-3.5	
73- 0500-2.5	
74- 0800-2.5	

NOSC LA POSTA Np 2.0 CM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

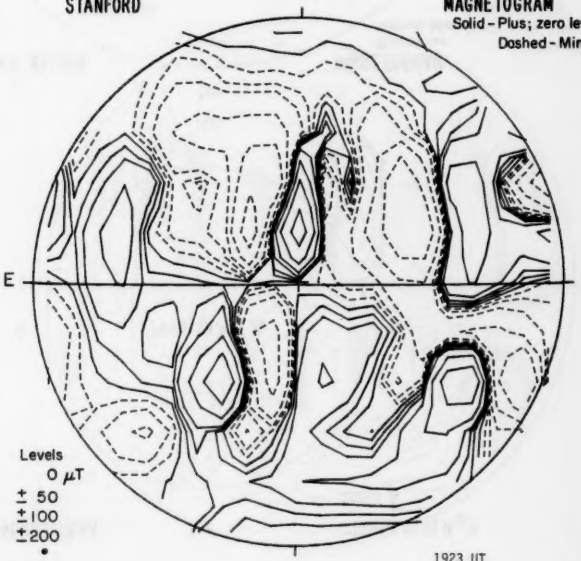
E EQUIPMENT W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

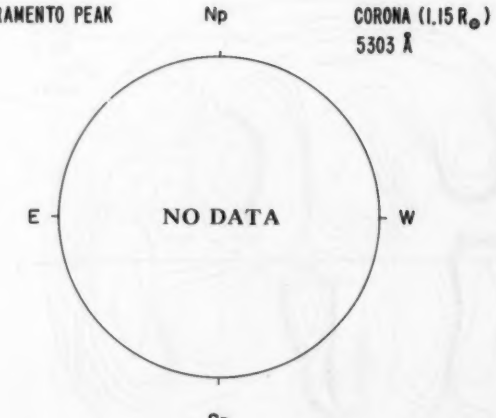
± 100

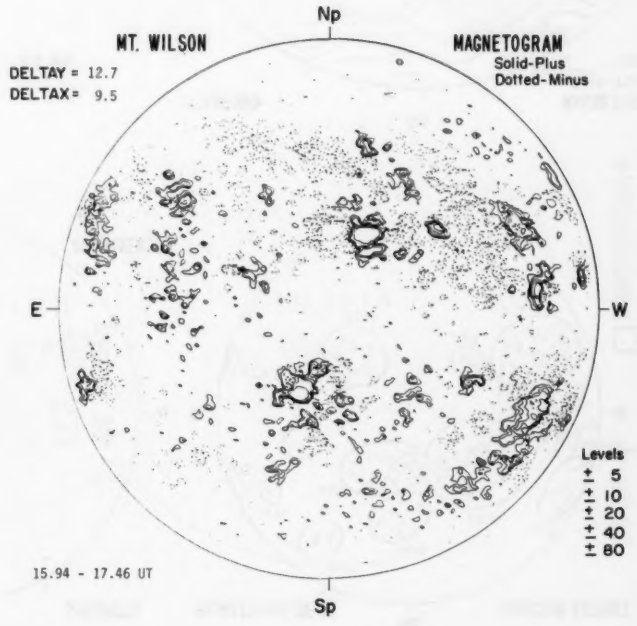
± 200

1923 UT Sp

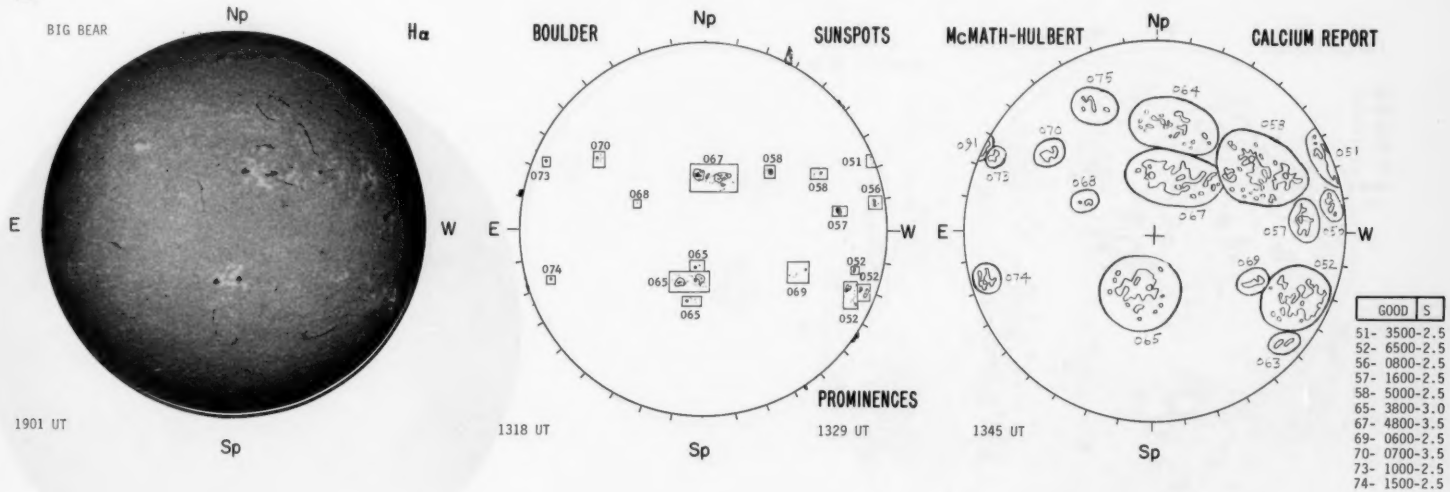
JUNE 12, 1979 (P=-11.34, B_o=0.63, L_o=105.50)

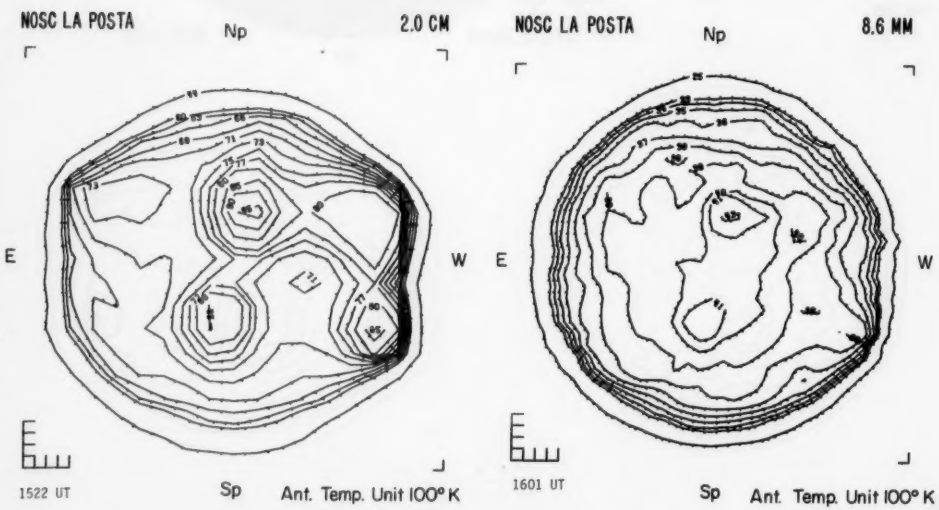
SACRAMENTO PEAK

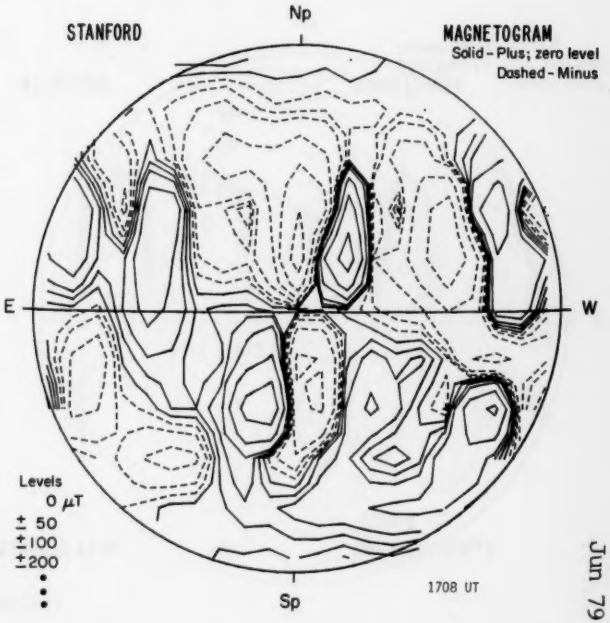




12


BIG BEAR
Np
Hα
E
W
Sp
1901 UT
BOULDER
SUNSPOTS
PROMINENCES
1318 UT
1329 UT
McMATH-HULBERT
CALCIUM REPORT
1345 UT
GOOD | S
51- 3500-2.5
52- 6500-2.5
56- 0800-2.5
57- 1600-2.5
58- 5000-2.5
65- 3800-3.0
67- 4800-3.5
69- 0600-2.5
70- 0700-3.5
73- 1000-2.5
74- 1500-2.5


NOSC LA POSTA
2.0 CM
Np
E
W
Sp
1522 UT
Ant. Temp. Unit 100° K
NOSC LA POSTA
8.6 MM
1601 UT
Ant. Temp. Unit 100° K


STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Sp
Levels
0 μT
± 50
±100
±200
1708 UT

JUNE 13, 1979 (P=-10.92, B_o=0.75, L_o=92.27)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E

NO DATA

W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

E

W

1448 UT

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.5

E

W

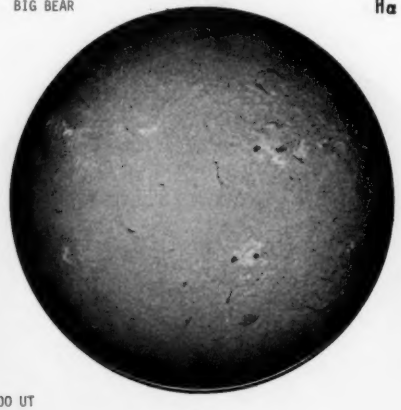
Levels
± 5
± 10
± 20
± 40
± 80

15.88 - 17.24 UT

Sp

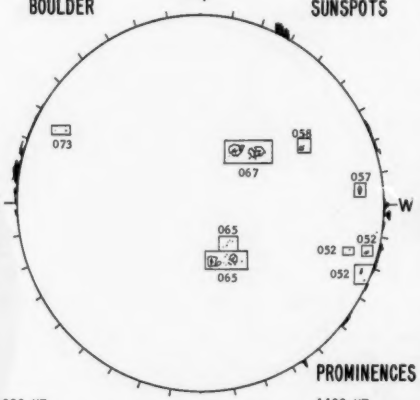
13

BIG BEAR Np Hα



2000 UT Sp

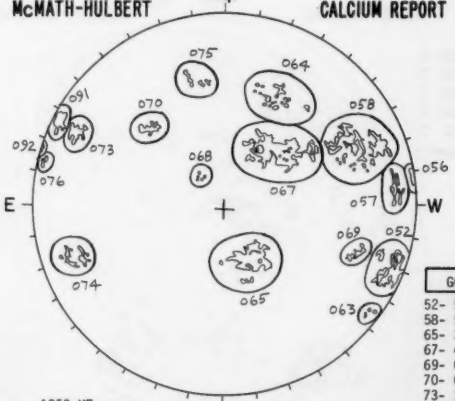
BOULDER Np SUNSPOTS



PROMINENCES

1330 UT Sp 1402 UT

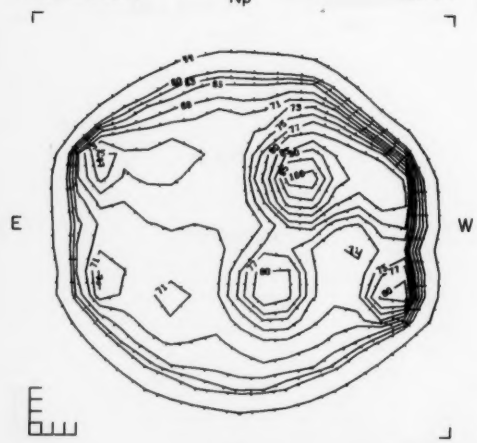
McMATH-HULBERT Np CALCIUM REPORT



GOOD	M
52-	5200-3.0
58-	5000-2.5
65-	3800-3.5
67-	4300-3.5
69-	0600-3.0
70-	0800-2.5
73-	1600-3.0
74-	1500-3.0
76-	0600-2.5
91-	2200-3.0

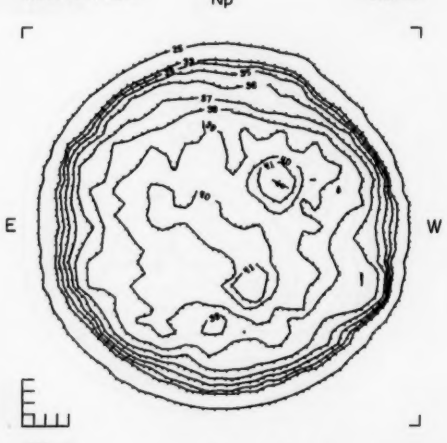
1250 UT Sp

NOSC LA POSTA Np 2.0 CM



1527 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

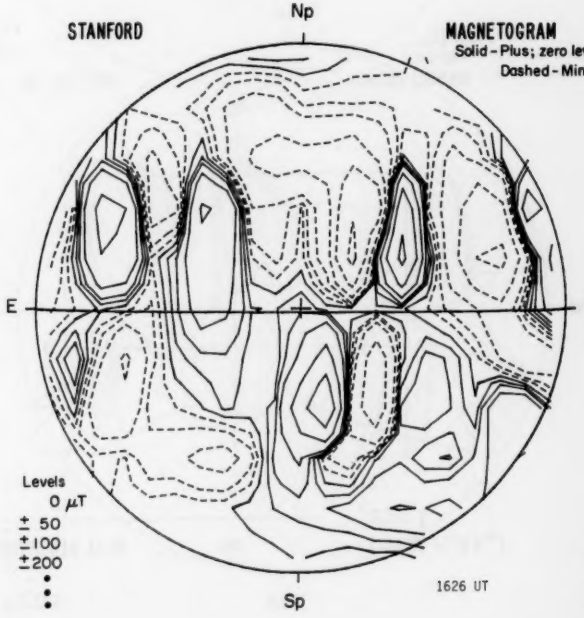


1555 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

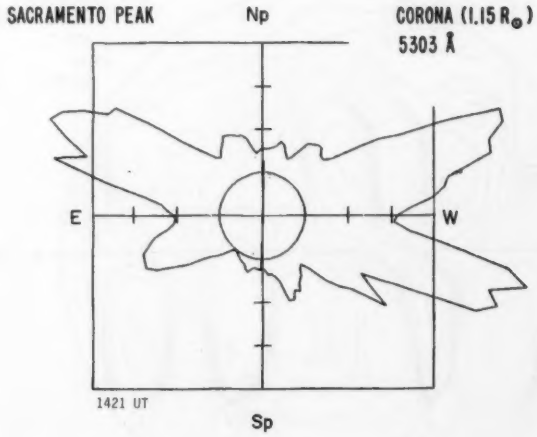


1626 UT Sp

75 Jun 79

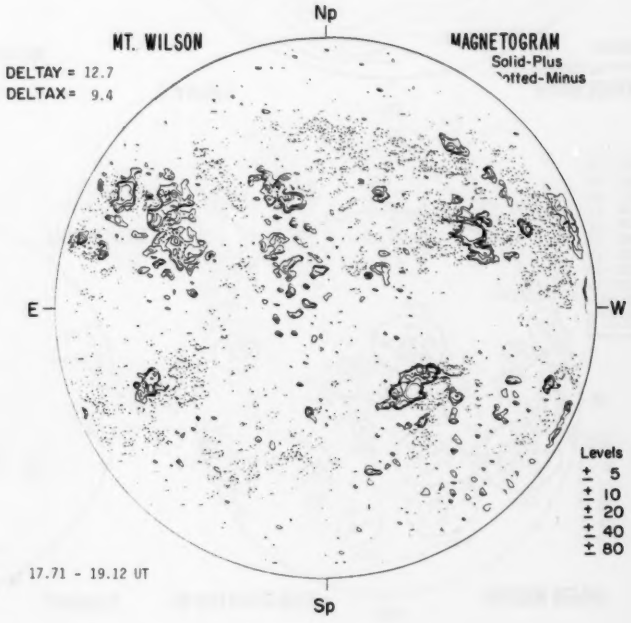
JUNE 14, 1979 (P =-10.50, B_o =0.87, L_o =79.03)

SACRAMENTO PEAK



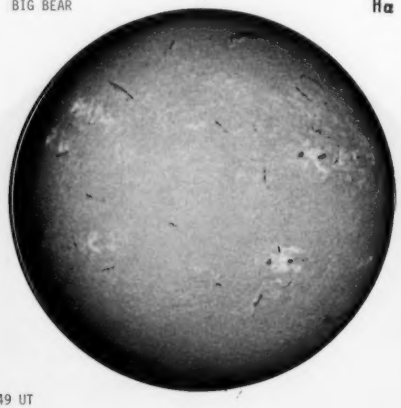
KITT PEAK

MT. WILSON



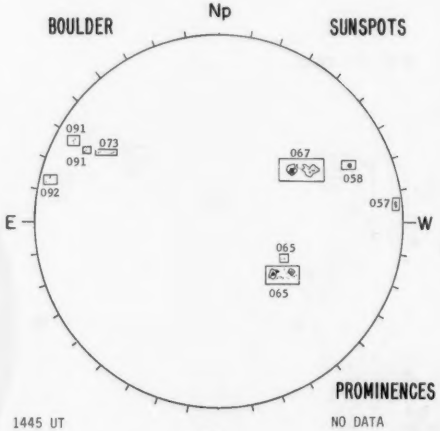
14

BIG BEAR



1849 UT

BOULDER

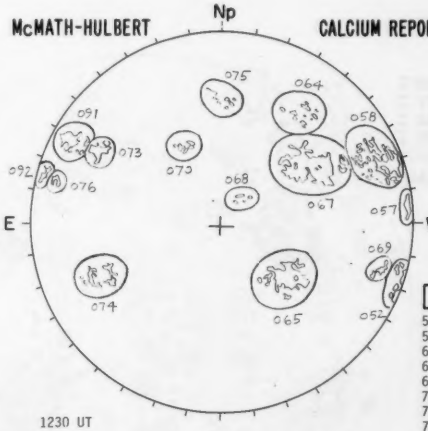


1445 UT

PROMINENCES

NO DATA

McMATH-HULBERT



1230 UT

GOOD	M
52-	3500-2.5
58-	4500-2.5
65-	3800-3.5
67-	4500-3.5
69-	0700-2.5
70-	0500-2.5
73-	1500-3.0
74-	1500-2.5
76-	0500-3.0
91-	2300-3.0
92-	1200-3.0

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

CALIBRATION

W

1514 UT

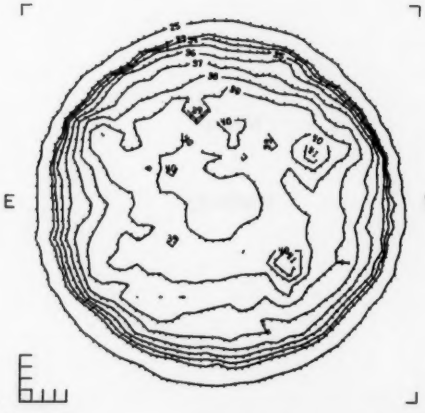
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



1559 UT

Sp

Ant. Temp. Unit 100° K

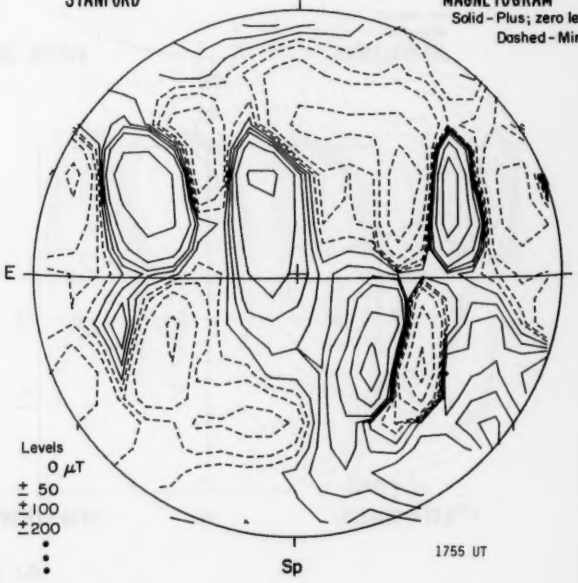
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



Levels

0 μT

± 50

±100

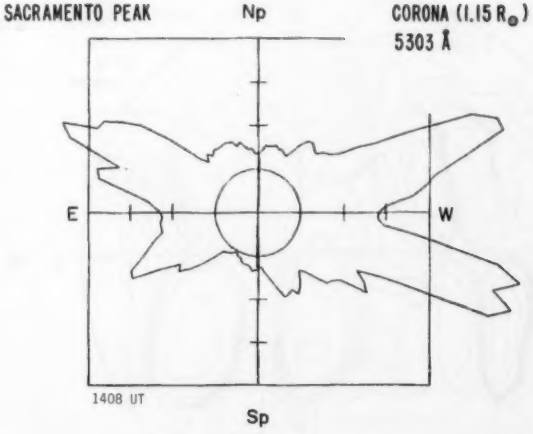
±200

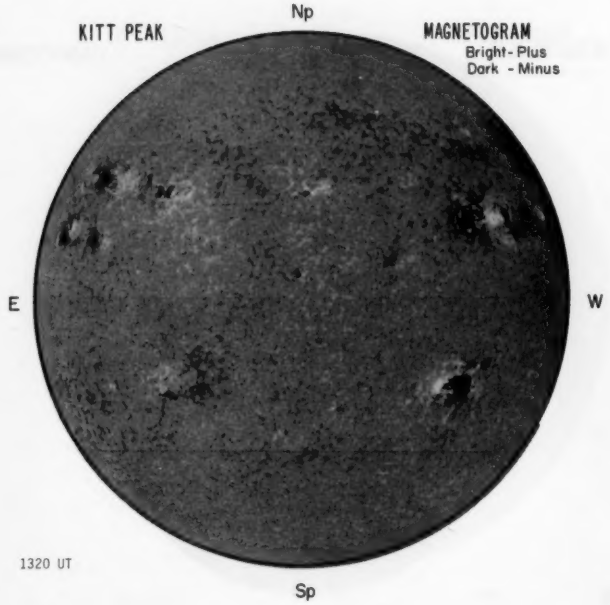
1755 UT

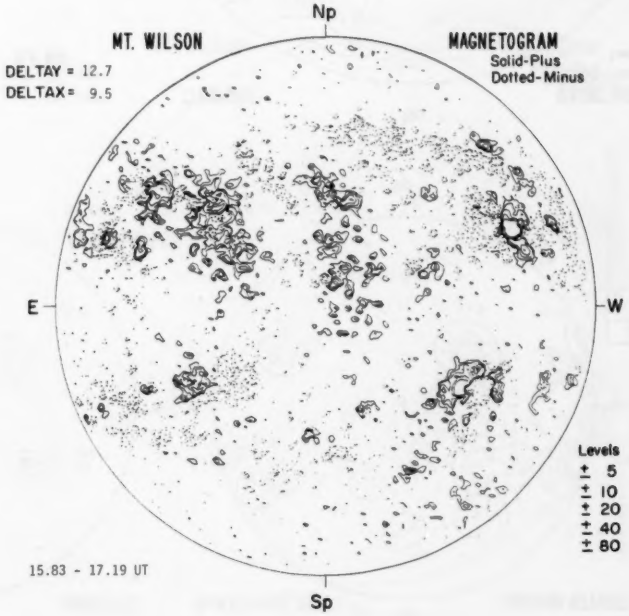
77 Jun 79

JUNE 15, 1979 (P=-10.07, B_o=0.99, L_o=65.79)

SACRAMENTO PEAK





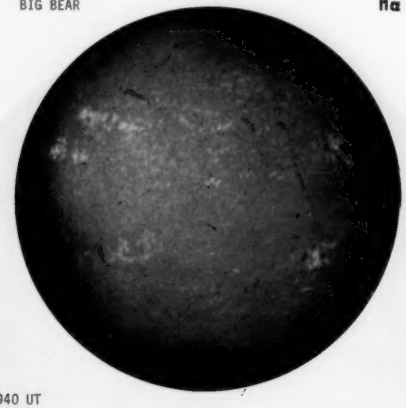


15

BIG BEAR

Np

Hα



E W

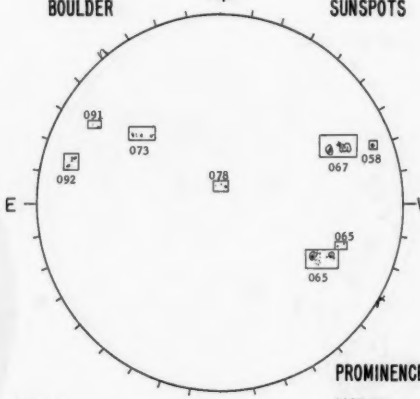
Sp

1940 UT

BOULDER

Np

SUNSPOTS



E W

Sp

1600 UT

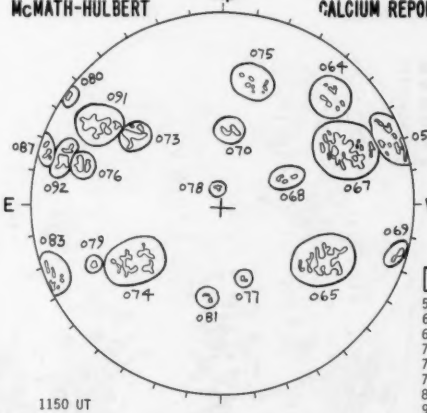
PROMINENCES

1625 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E W

Sp

1150 UT

FAIR	M
58- 3000-2.0	
65- 3600-3.0	
67- 4200-3.0	
70- 0500-2.5	
73- 1400-3.0	
76- 0900-3.0	
80- 0600-3.0	
91- 2600-3.0	
92- 1200-3.5	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E EQUIPMENT W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E EQUIPMENT W

---- UT

Sp Ant. Temp. Unit 100° K

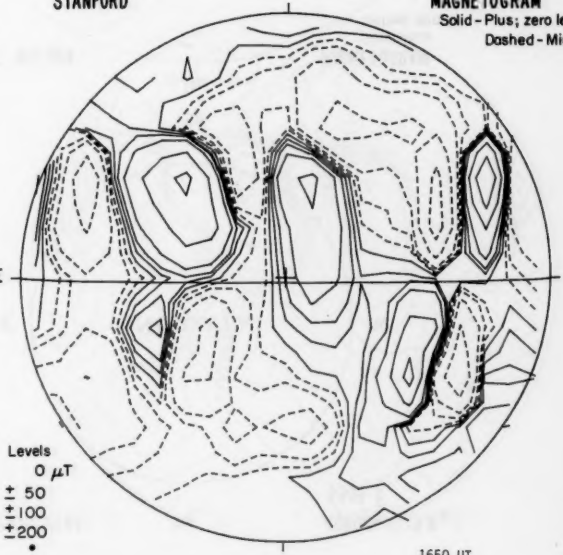
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Sp

1650 UT

Levels

0 μT

± 50

±100

±200

•

•

•

79 Jun 79

JUNE 16, 1979 (P=-9.64, B_o=1.11, L_o=52.55)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E — NO DATA — W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright-Plus
Dark - Minus

E W

1404 UT

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.5

E W

Levels
± 5
± 10
± 20
± 40
± 80

15.26 - 16.94 UT

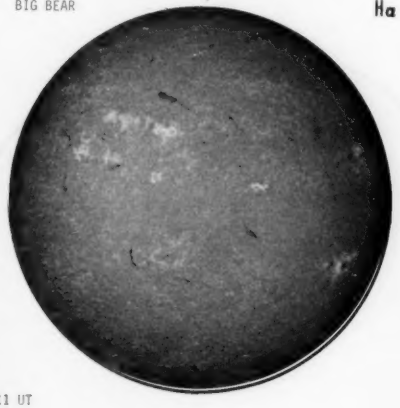
Sp

16

BIG BEAR

Np

Hα



E W

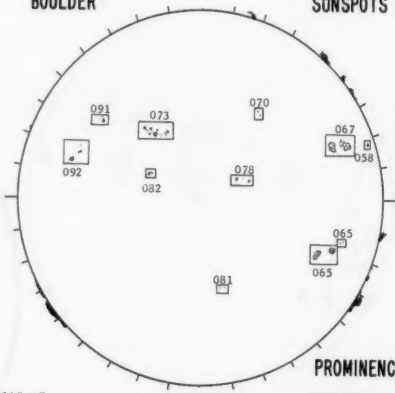
Sp

2011 UT

BOULDER

Np

SUNSPOTS



E W

Sp

1315 UT

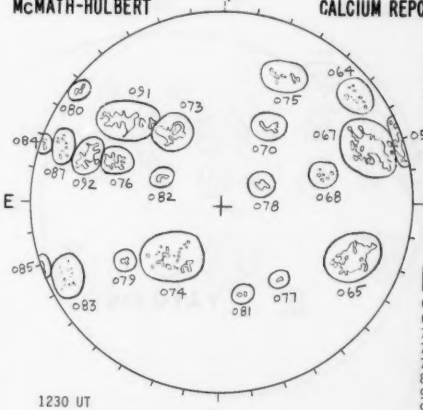
PROMINENCES

1400 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E W

Sp

1230 UT

	GOOD	M
65-	3600-	3.0
67-	4500-	3.0
73-	1400-	3.0
76-	0800-	3.0
78-	0400-	2.5
80-	0500-	3.0
91-	2300-	3.5
92-	1600-	3.0

NOSC LA POSTA

Np

2.0 CM

NO DATA

SCHEDULE

E W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

SCHEDULE

E W

---- UT

Sp

Ant. Temp. Unit 100° K

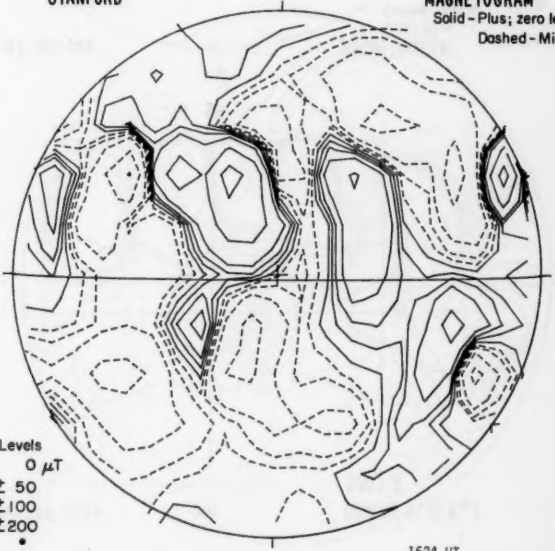
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

Sp

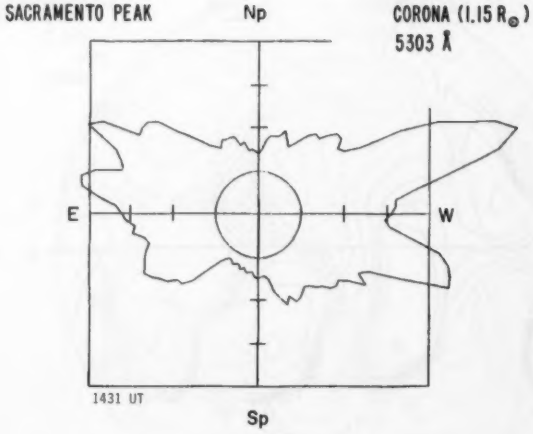
1624 UT

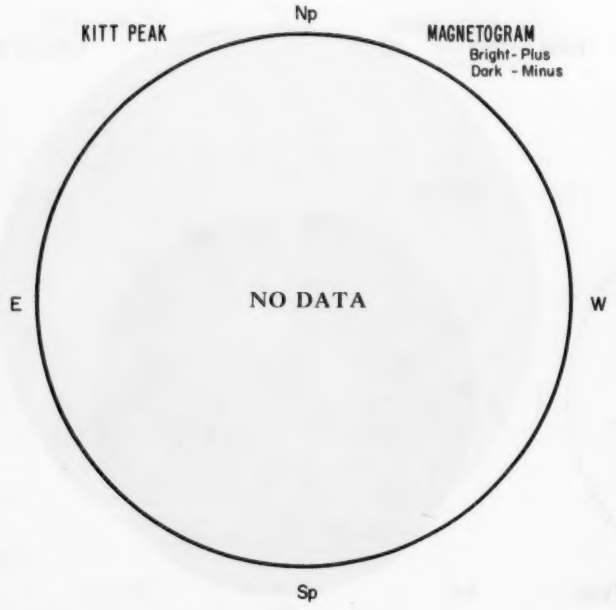
81

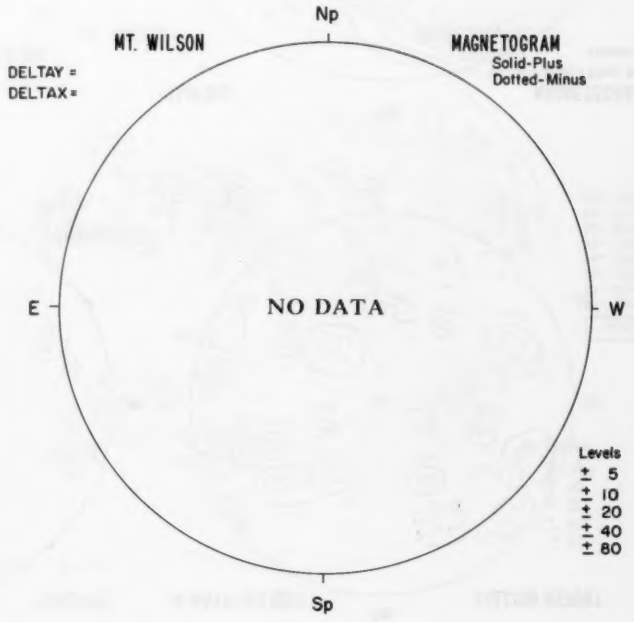
Jun 79

JUNE 17, 1979 (P = -9.21, B_o = 1.23, L_o = 39.32)

SACRAMENTO PEAK



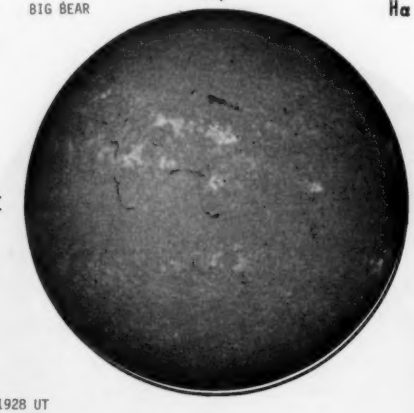




Sp

17

BIG BEAR Np Hα

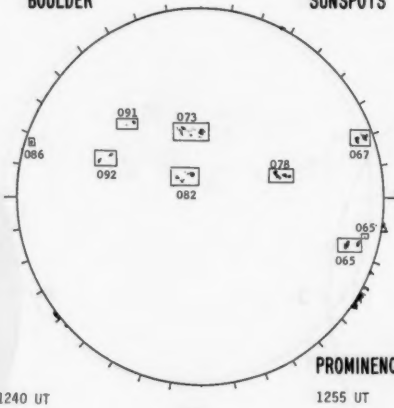


E W

1928 UT

Sp

BOULDER Np SUNSPOTS



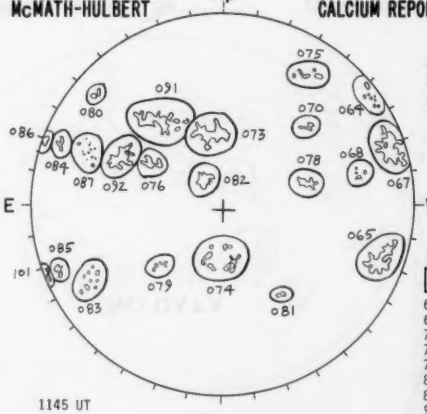
E W

PROMINENCES

1240 UT 1255 UT

Sp

McMATH-HULBERT Np CALCIUM REPORT



E W

1145 UT

Sp

POOR	M

65- 3500-3.5
67- 4100-3.0
73- 2000-3.0
76- 0700-3.0
78- 0600-3.0
80- 0600-3.0
82- 0700-3.0
91- 2100-3.5
92- 1500-3.0

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

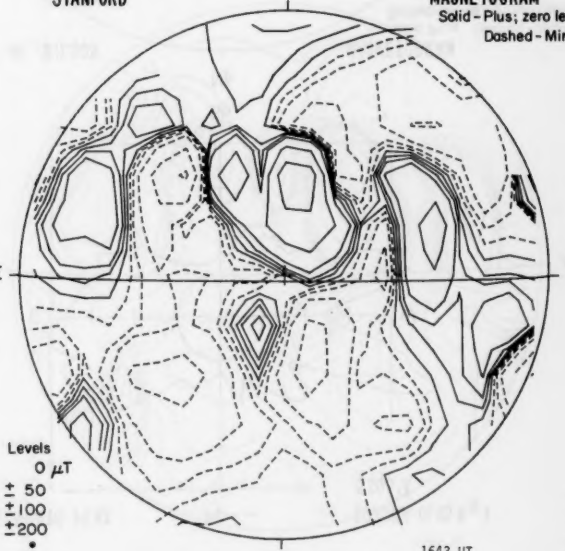
E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



E W

Levels 0 μT
± 50
± 100
± 200

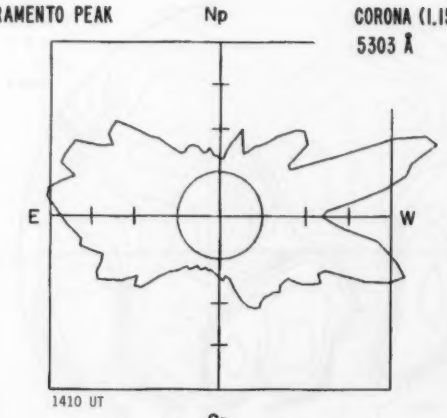
1643 UT

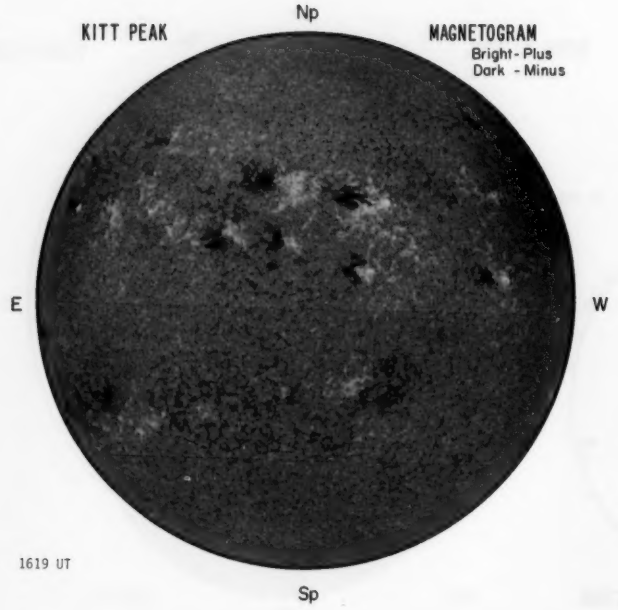
Sp

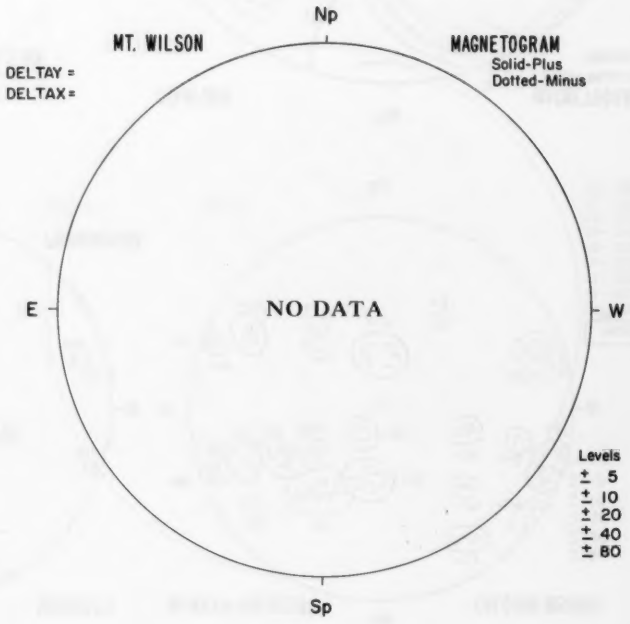
83 Jun 79

JUNE 18, 1979 (P=-8.78, B_o=1.34, L_o=26.08)

SACRAMENTO PEAK

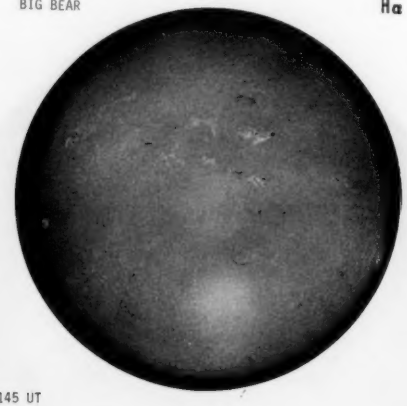






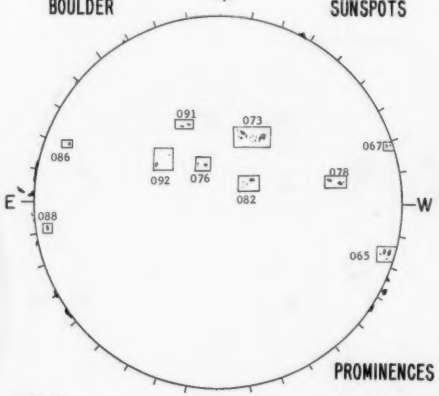
18

BIG BEAR Np Hα



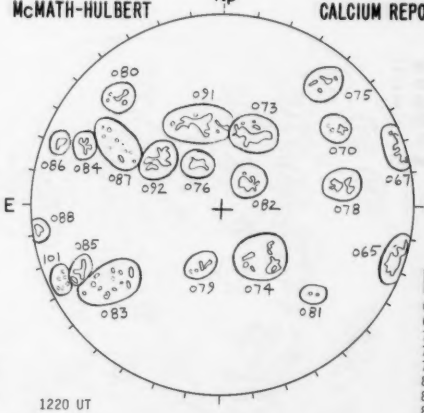
2145 UT Sp

BOULDER Np SUNSPOTS



1430 UT Sp PROMINENCES 1603 UT

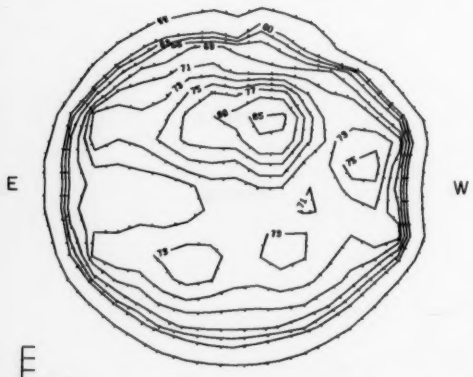
McMATH-HULBERT Np CALCIUM REPORT



FAIR	M
65- 3200-3.5	
67- 3200-2.5	
73- 2200-3.5	
76- 0600-3.0	
78- 0900-2.5	
80- 0500-2.5	
82- 0700-3.0	
86- 0800-2.5	
88- 0800-3.5	
91- 2000-3.0	
92- 1200-3.0	

1220 UT Sp

NOSC LA POSTA Np 2.0 CM



1625 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

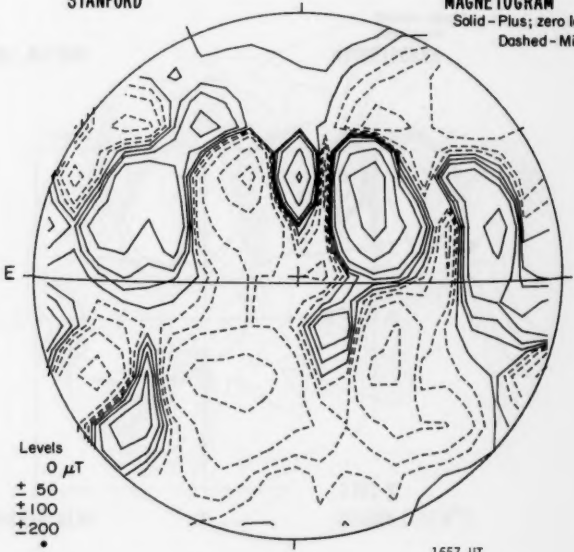
NO DATA

CALIBRATION

1656 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



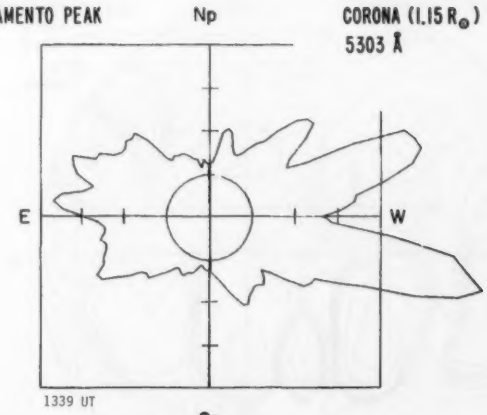
Levels
0 μT
± 50
±100
±200

1657 UT Sp

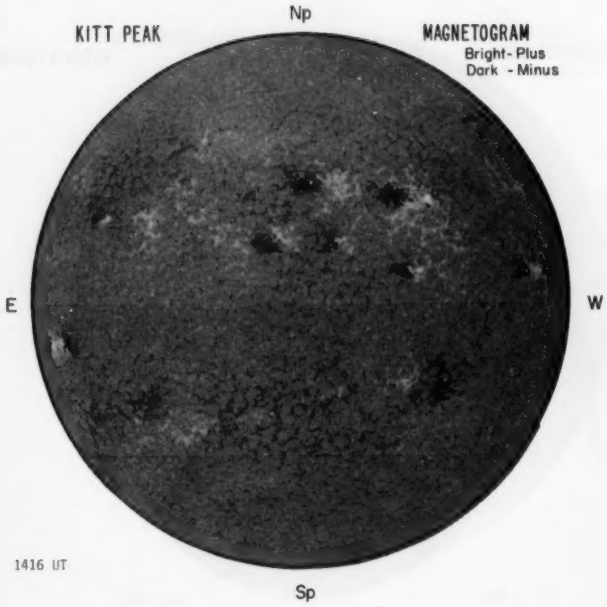
85
Jun 79

JUNE 19, 1979 (P=-8.34, B_o=1.46, L_o=12.84)

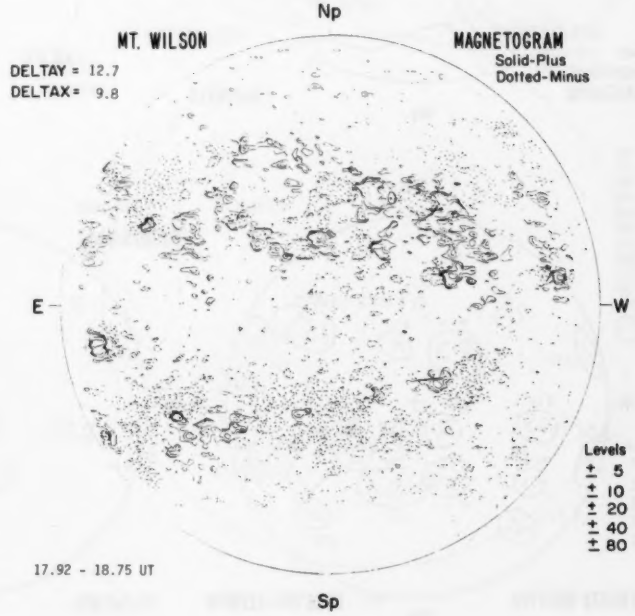
SACRAMENTO PEAK



KITT PEAK

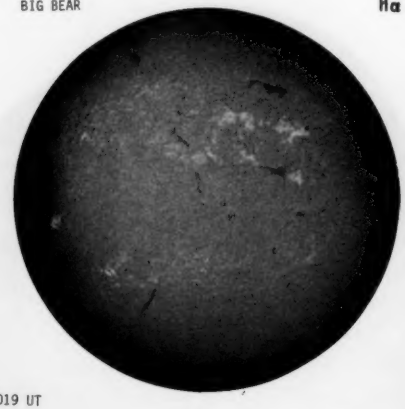


MT. WILSON



19

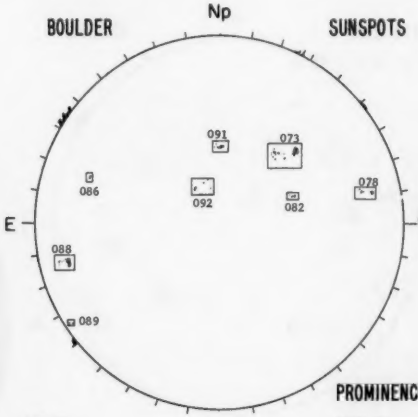
BIG BEAR Np Hα



E W Sp

2019 UT

BOULDER Np SUNSPOTS



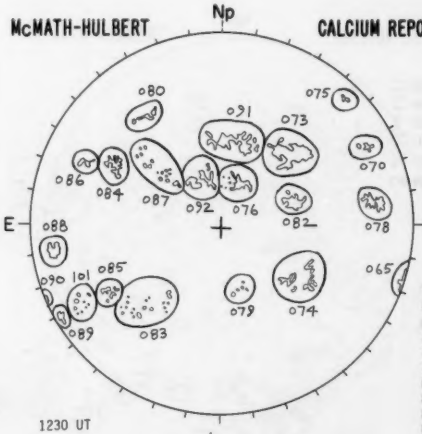
E W Sp

1445 UT

PROMINENCES

1608 UT

McMATH-HULBERT Np CALCIUM REPORT



E W Sp

1230 UT

GOOD	M

65- 1700-2.5
73- 2300-3.5
76- 0800-3.0
78- 1000-3.0
82- 0800-3.0
86- 0500-2.5
88- 1600-3.5
89- 0700-3.0
90- 0300-2.5
91- 2200-3.0
92- 1000-3.0

NOSC LA POSTA Np 2.0 CM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

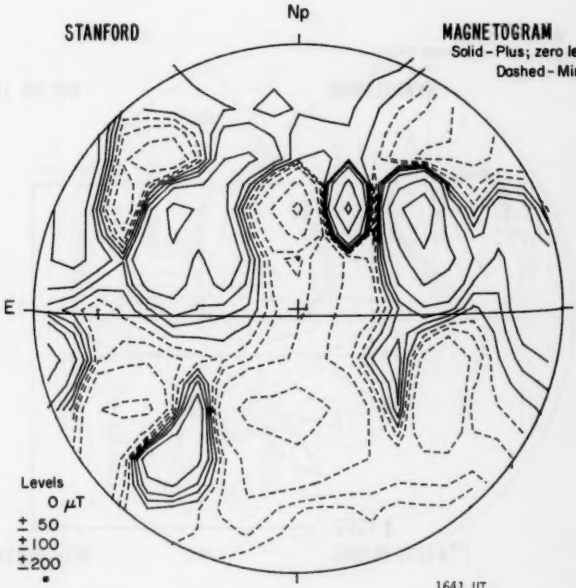
NO DATA

E EQUIPMENT W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



E W Sp

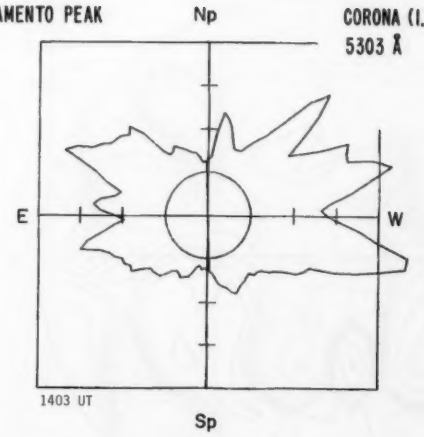
1641 UT

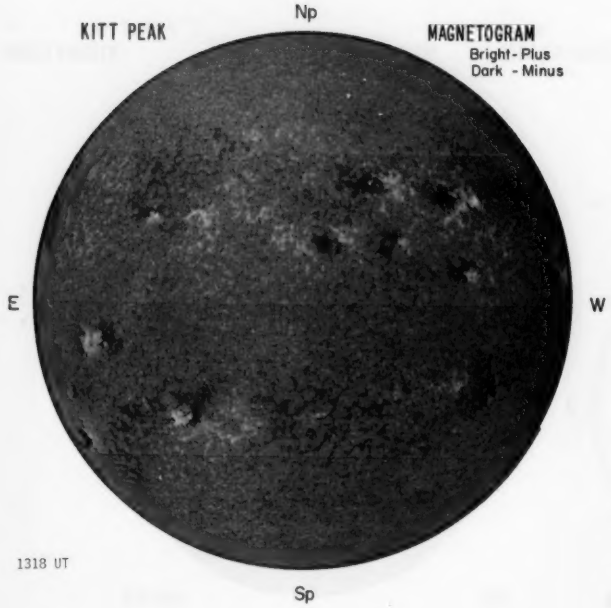
Levels
0 μT
± 50
±100
±200

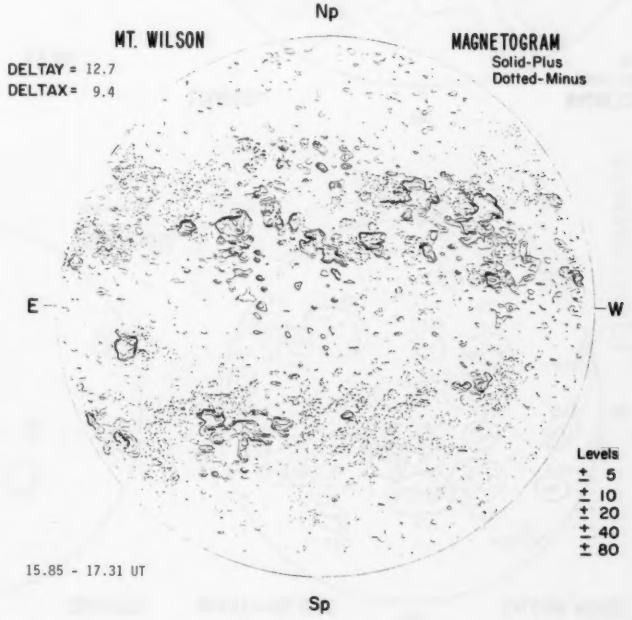
87 Jun 79

JUNE 20, 1979 (P=-7.90, B_o=1.58, L_o=359.61)

SACRAMENTO PEAK

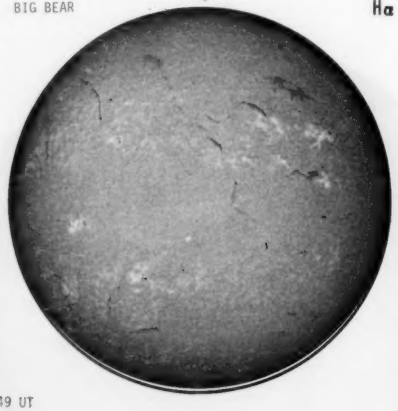






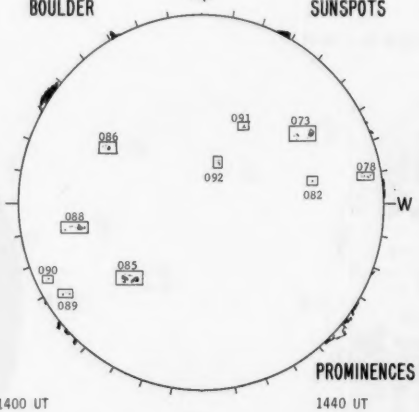
20

BIG BEAR Hα



2149 UT

BOULDER SUNSPOTS

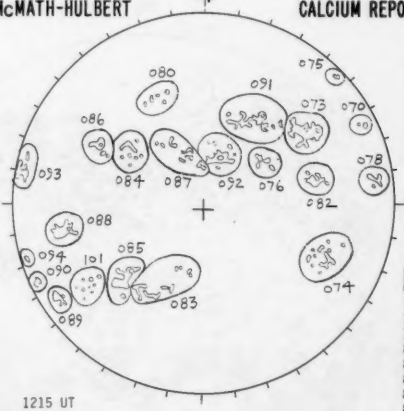


1400 UT

PROMINENCES

1440 UT

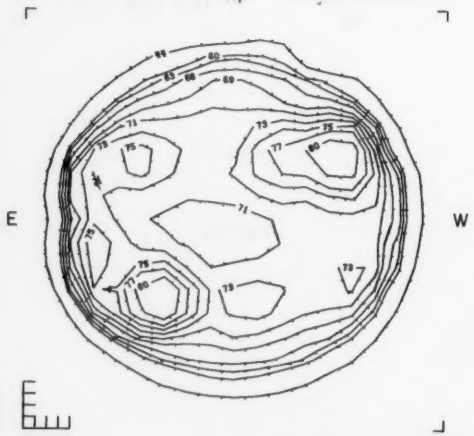
McMATH-HULBERT CALCIUM REPORT



1215 UT

FAIR	M
73- 2500-3.0	
76- 0700-2.5	
78- 0900-2.5	
82- 0900-3.0	
85- 1300-3.0	
86- 0500-3.0	
88- 1600-3.5	
89- 1100-3.5	
90- 0500-2.5	
91- 1800-3.0	
92- 0900-2.5	
93- 1500-2.5	

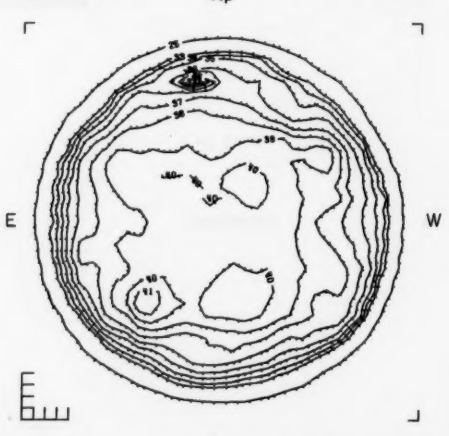
NOSC LA POSTA 2.0 CM



1448 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA 8.6 MM

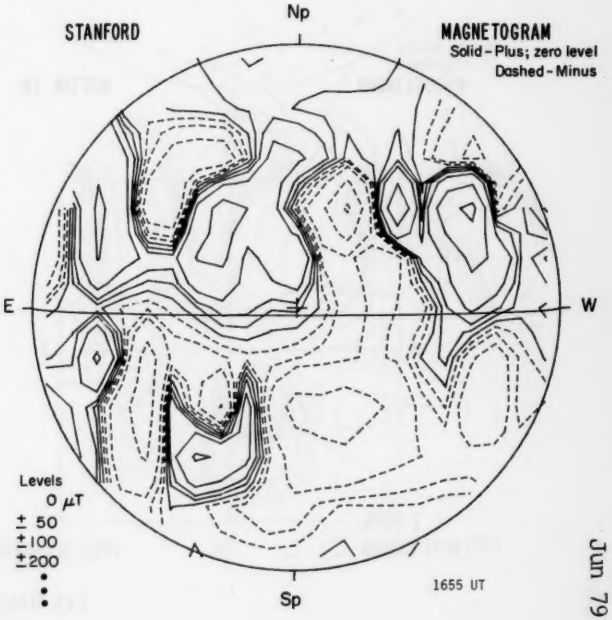


1519 UT

Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

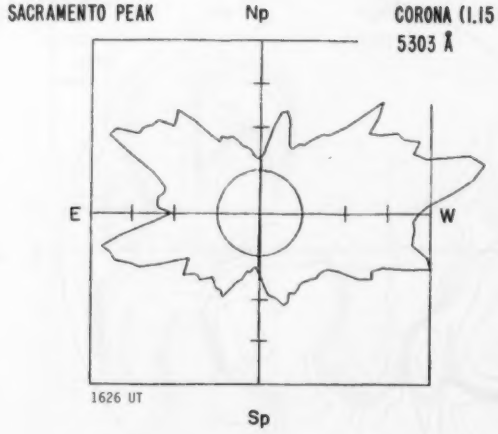


1655 UT

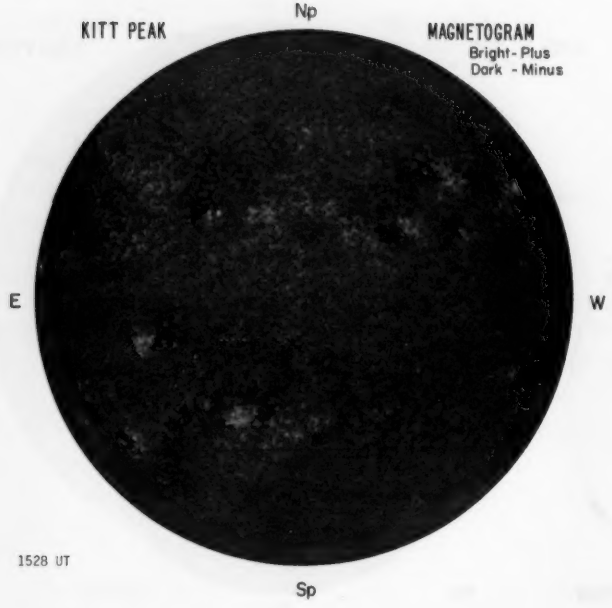
Jun 79

JUNE 21, 1979 (P = -7.46, B_o = 1.70, L_o = 346.37)

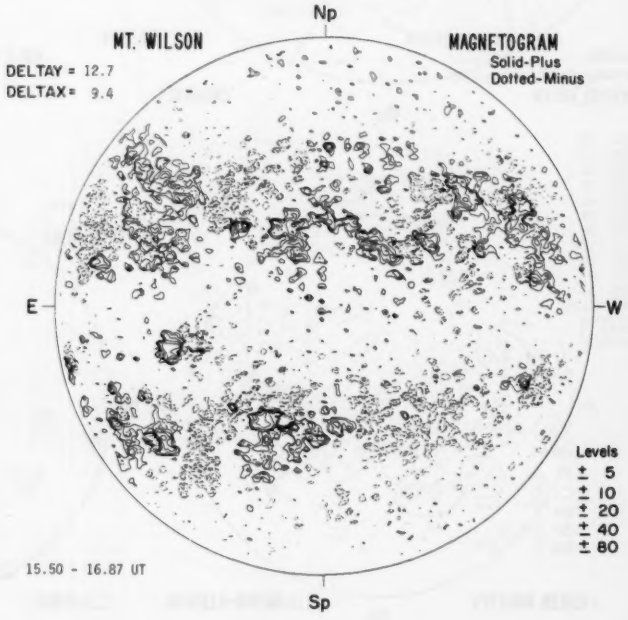
SACRAMENTO PEAK



KITT PEAK

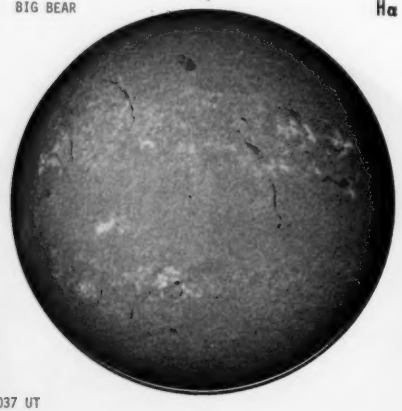


MT. WILSON



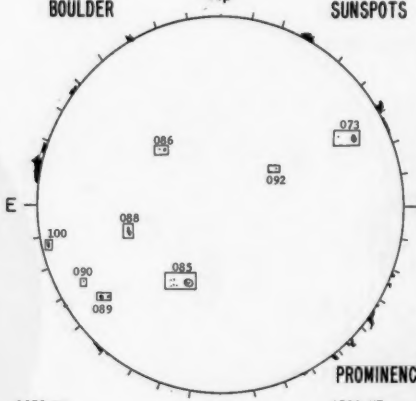
21

BIG BEAR Hα



2037 UT

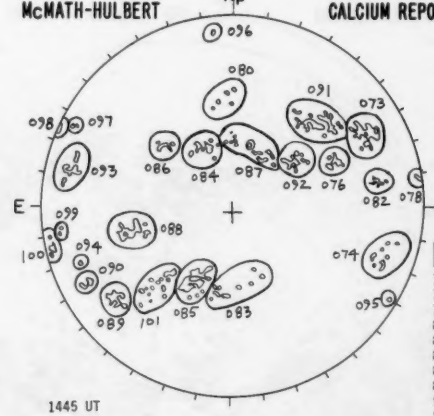
BOULDER SUNSPOTS



PROMINENCES

1255 UT 1530 UT

McMATH-HULBERT CALCIUM REPORT



1445 UT

GOOD	S
73-	2300-3.0
76-	0700-2.5
78-	0400-2.5
82-	0600-3.0
85-	1700-3.0
86-	0400-2.5
88-	1400-3.5
89-	1000-3.5
90-	0500-2.5
91-	1800-3.0
92-	0800-2.5
93-	1300-2.5
98-	0600-2.5
100-	0600-2.5

NOSC LA POSTA Np 2.0 CM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

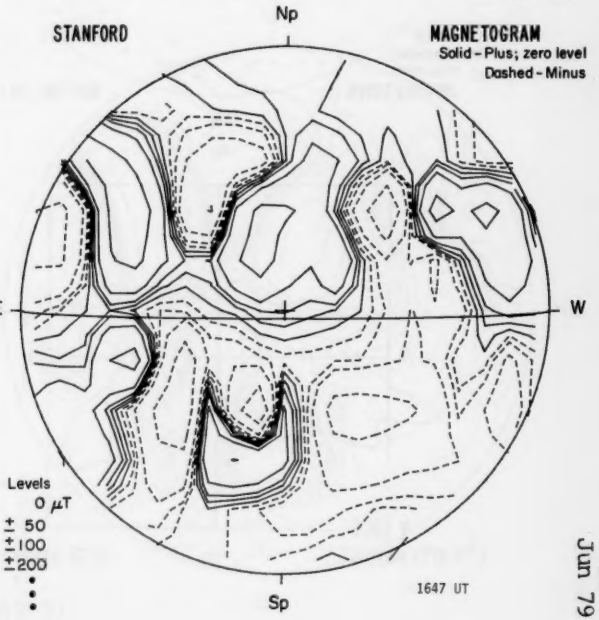
NO DATA

E EQUIPMENT W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

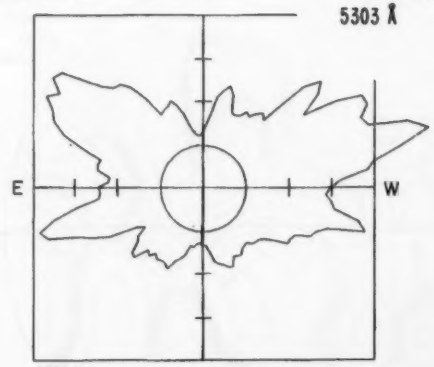


1647 UT

91
Jun 79

JUNE 22, 1979 (P=-7.02, B_o=1.81, L_o=333.13)

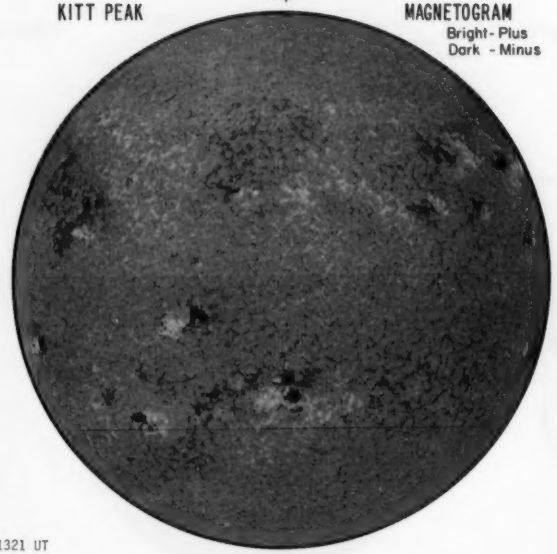
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1646 UT

Sp

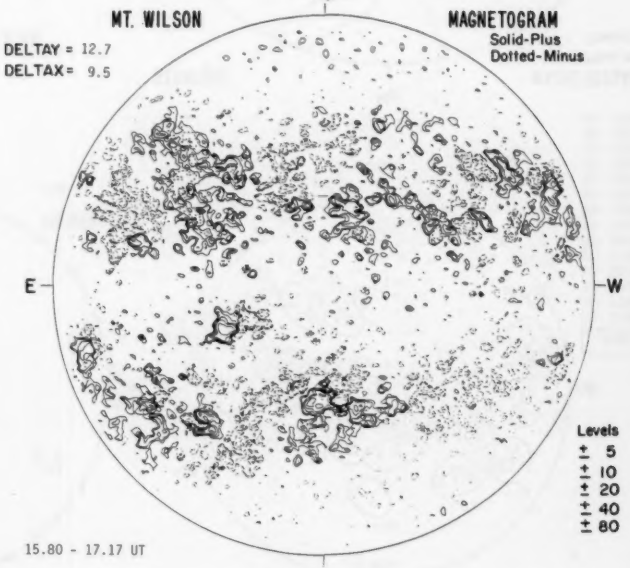
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1321 UT

Sp

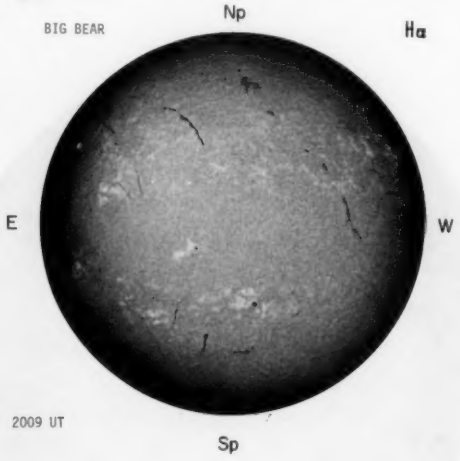
MT. WILSON Np MAGNETOGRAM
Solid - Plus
Dotted - Minus
DELTAY = 12.7
DELTAX = 9.5

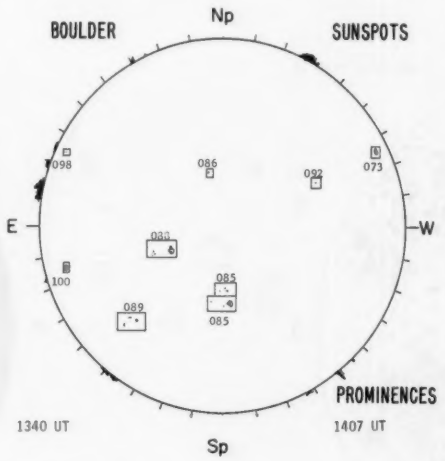


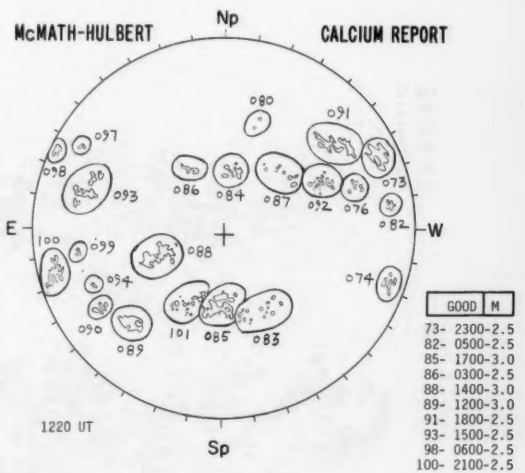
15.80 - 17.17 UT

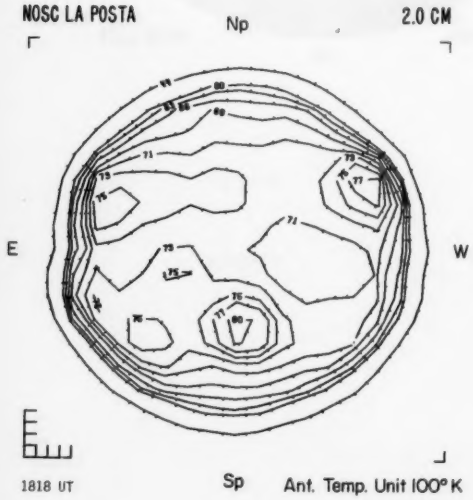
Sp

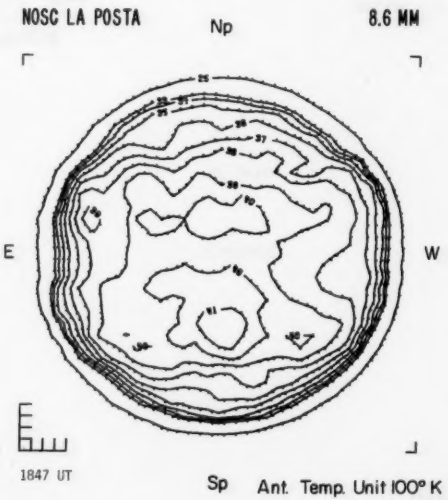
22

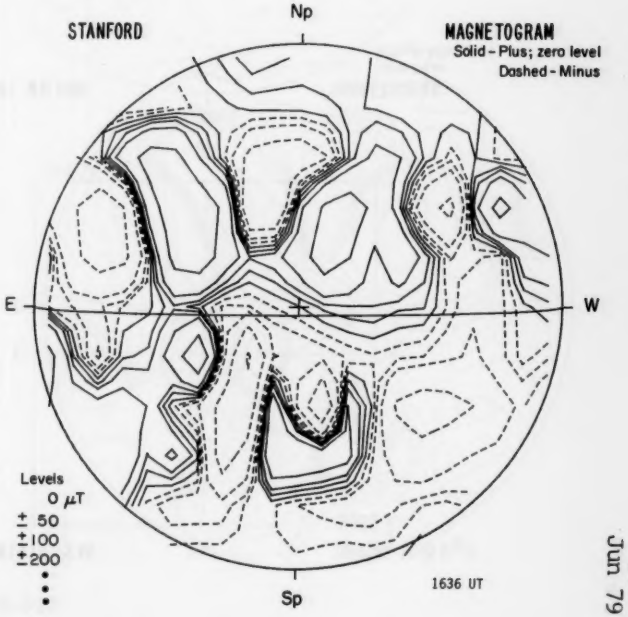

BIG BEAR
Np
Hα
E
W
Sp
2009 UT


BOULDER
Np
SUNSPOTS
E
W
Sp
1340 UT
PROMINENCES
1407 UT


McMATH-HULBERT
Np
CALCIUM REPORT
E
W
Sp
1220 UT
GOOD | M
73- 2300-2.5
82- 0500-2.5
85- 1700-3.0
86- 0300-2.5
88- 1400-3.0
89- 1200-3.0
91- 1800-2.5
93- 1500-2.5
98- 0600-2.5
100- 2100-2.5


NOSC LA POSTA
Np
2.0 CM
E
W
1818 UT
Sp
Ant. Temp. Unit 100° K

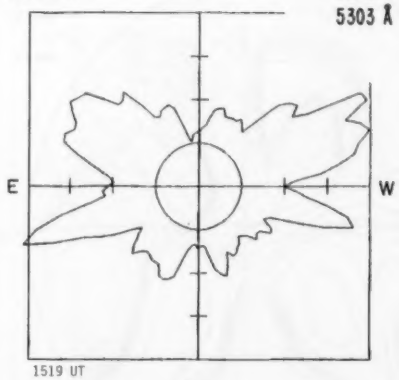

NOSC LA POSTA
Np
8.6 MM
E
W
1847 UT
Sp
Ant. Temp. Unit 100° K


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
Sp
1636 UT

93 Jun 79

JUNE 23, 1979 (P = -6.57, B_o = 1.93, L_o = 319.90)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1519 UT

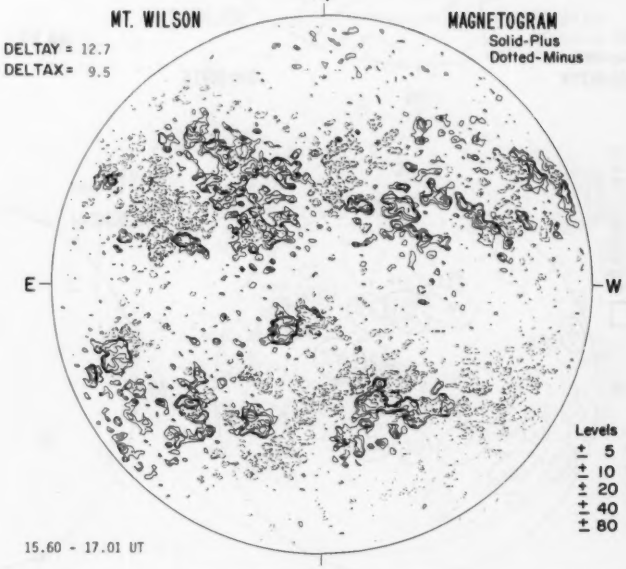
Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1308 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.5

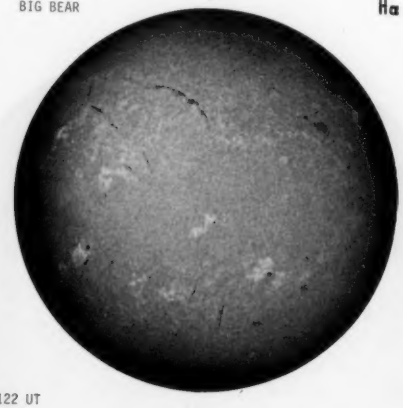


15.60 - 17.01 UT

Sp

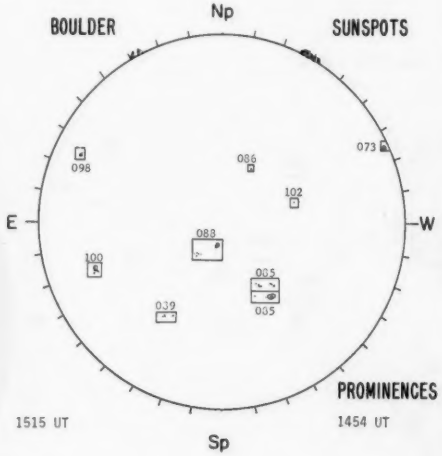
23

BIG BEAR Hα



2122 UT

BOULDER SUNSPOTS

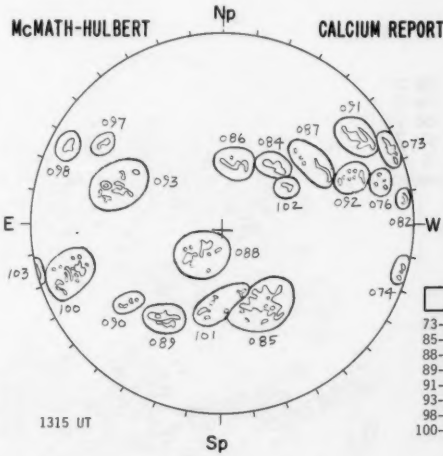


1515 UT

PROMINENCES

1454 UT

McMATH-HULBERT CALCIUM REPORT



1315 UT

FAIR	S
73- 2200-2.5	
85- 2500-3.0	
88- 1200-3.0	
89- 1300-2.5	
91- 1800-3.0	
93- 1400-2.5	
98- 1200-3.5	
100- 1800-3.0	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

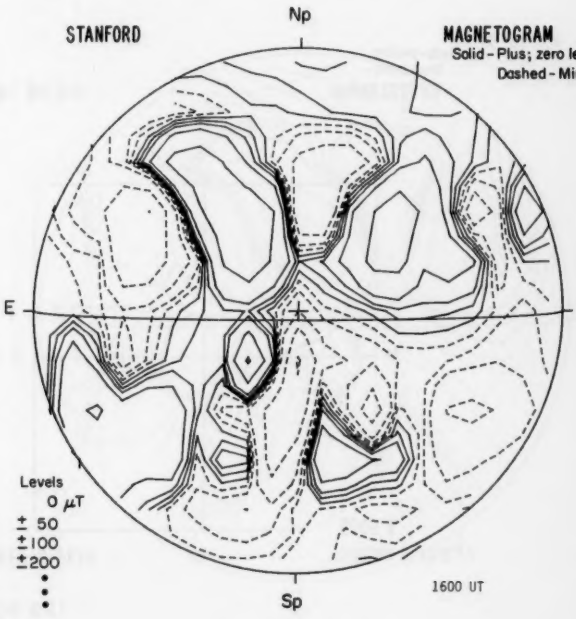
E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

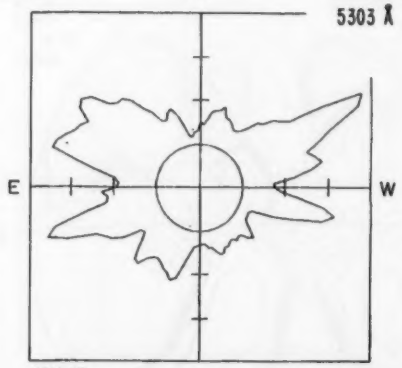


1600 UT

95
Jun 79

JUNE 24, 1979 (P=-6.13, B_o=2.05, L_o=306.66)

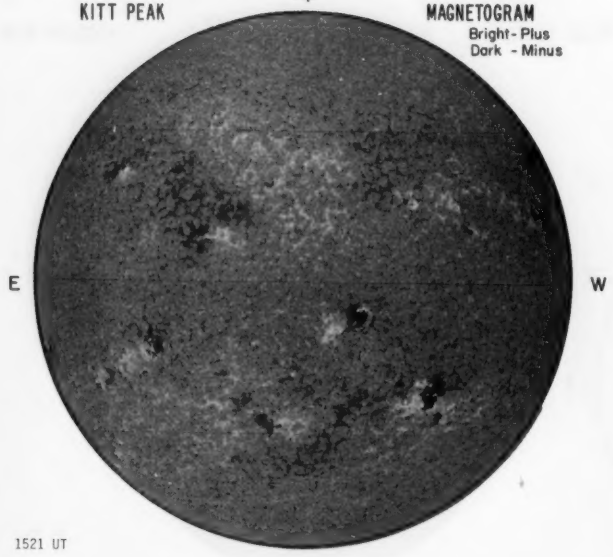
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1418 UT

Sp

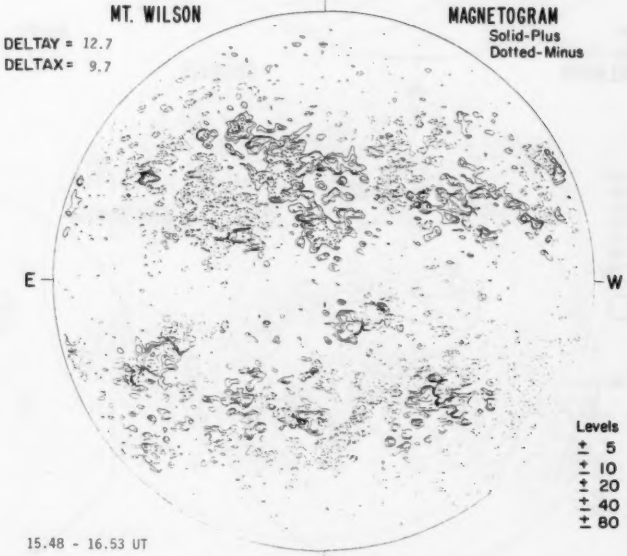
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1521 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.7



15.48 - 16.53 UT

Sp

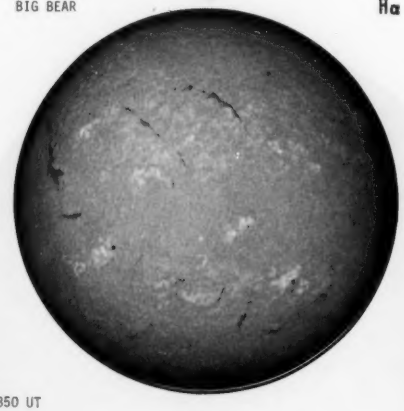
Sp

24

BIG BEAR

Np

Hα



E W

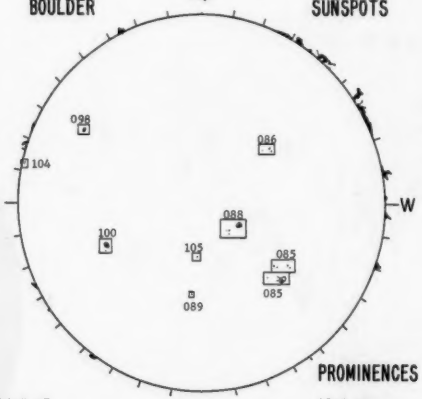
1850 UT

Sp

BOULDER

Np

SUNSPOTS



E W

1415 UT

PROMINENCES

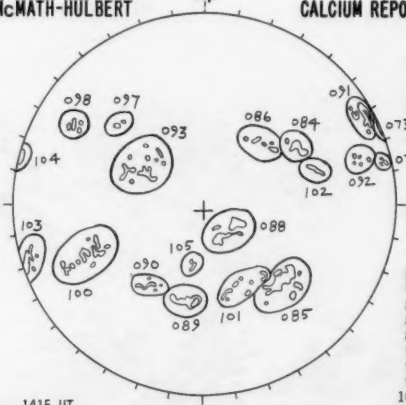
1512 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E W

1415 UT

Sp

FAIR	S
85- 2500-3.0	
88- 1300-3.0	
89- 1200-2.5	
91- 1800-2.5	
93- 1300-2.5	
98- 1000-3.0	
100- 1700-3.0	
104- 1200-2.5	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

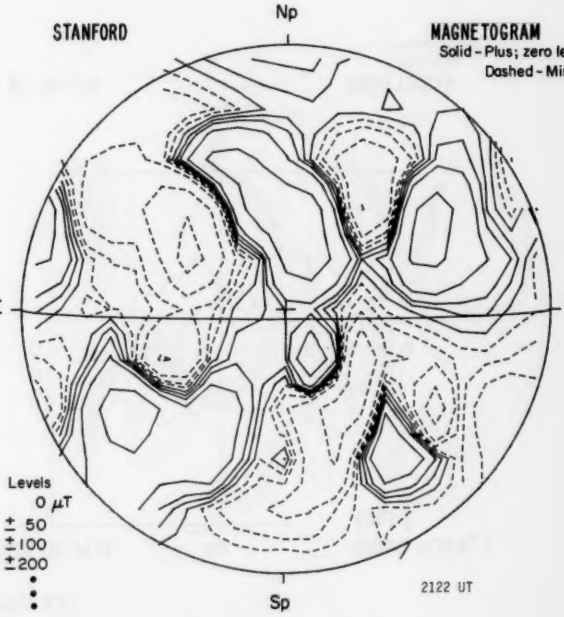
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

2122 UT

Sp

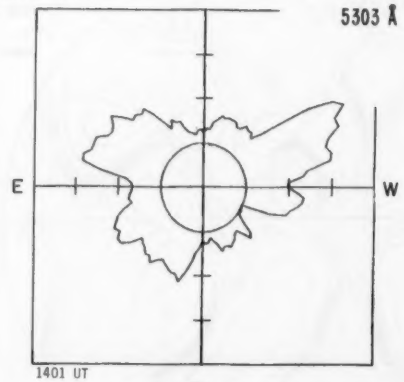
97

Jun 79

JUNE 25, 1979 (P=-5.68, B_o=2.16, L_o=293.42)

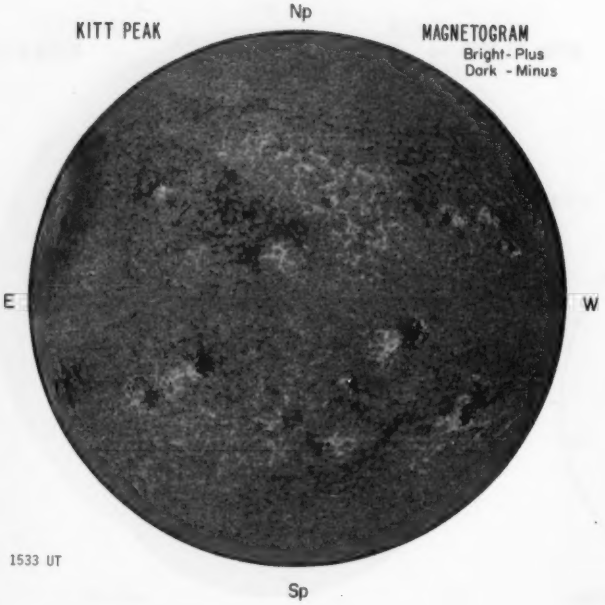
SACRAMENTO PEAK

CORONA (1.15 $R_\odot$)
5303 Å



KITT PEAK

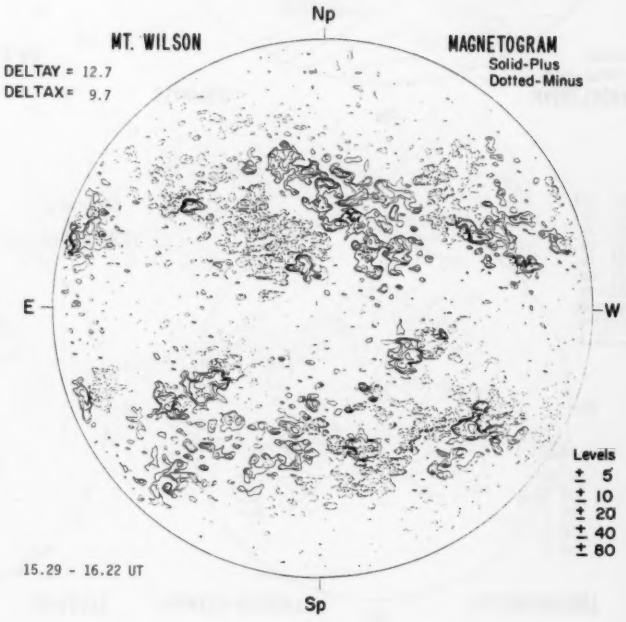
MAGNETOGRAM
Bright-Plus
Dark - Minus



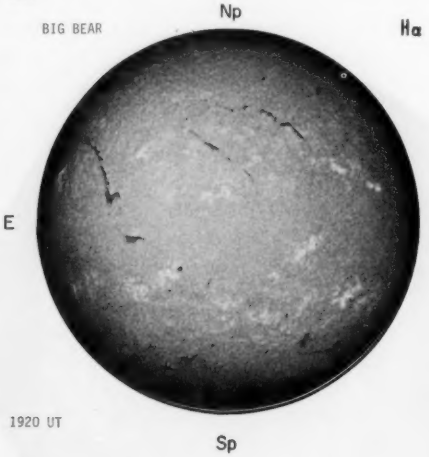
MT. WILSON

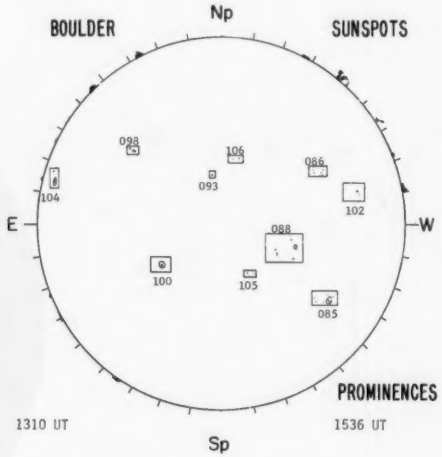
DELTAY = 12.7
DELTAX= 9.7

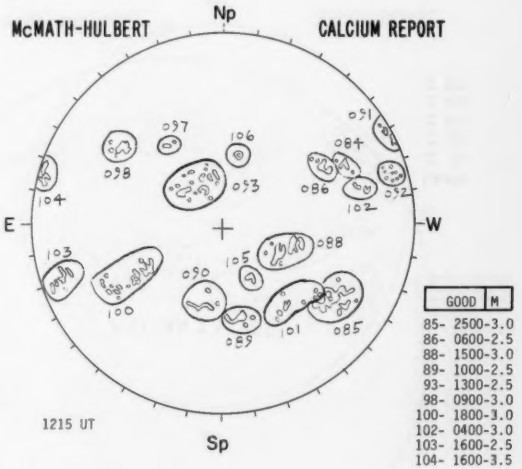
MAGNETOGRAM
Solid-Plus
Dotted-Minus

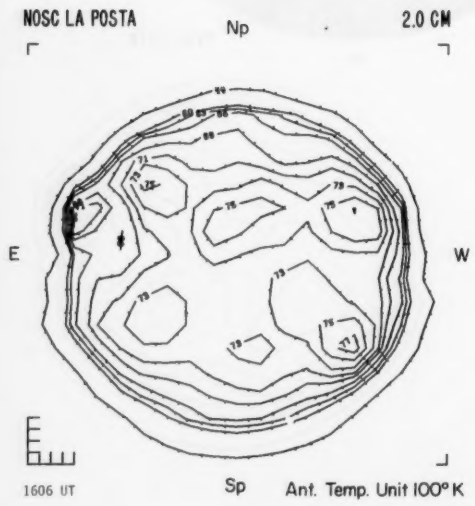


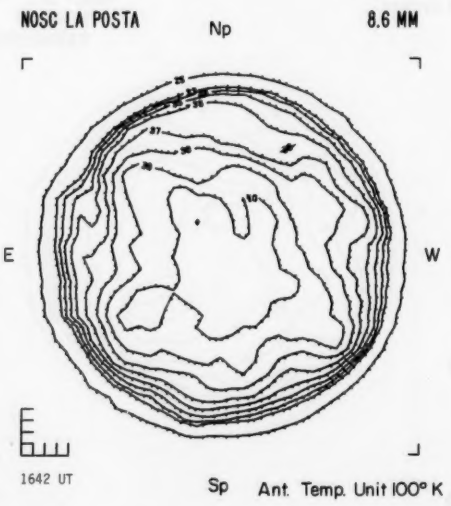
25

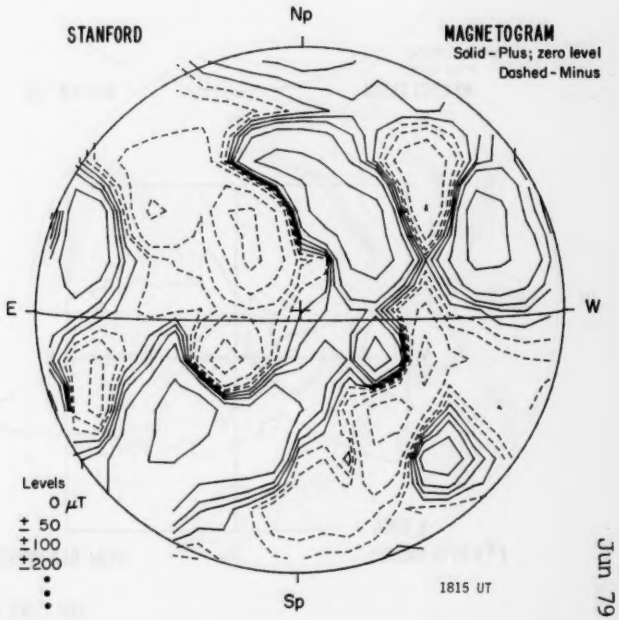

BIG BEAR
Np
Hα
E
W
Sp
1920 UT


BOULDER
Np
SUNSPOTS
E
W
Sp
PROMINENCES
1310 UT
1536 UT


McMATH-HULBERT
Np
CALCIUM REPORT
E
W
Sp
1215 UT
GOOD | M
85- 2500-3.0
86- 0600-2.5
88- 1500-3.0
89- 1000-2.5
93- 1300-2.5
98- 0900-3.0
100- 1800-3.0
102- 0400-3.0
103- 1600-2.5
104- 1600-3.5

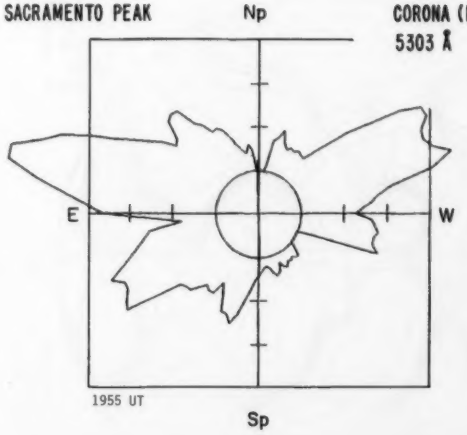

NOSC LA POSTA
Np
2.0 CM
E
W
Sp
1606 UT
Ant. Temp. Unit 100° K


NOSC LA POSTA
Np
8.6 MM
E
W
Sp
1642 UT
Ant. Temp. Unit 100° K

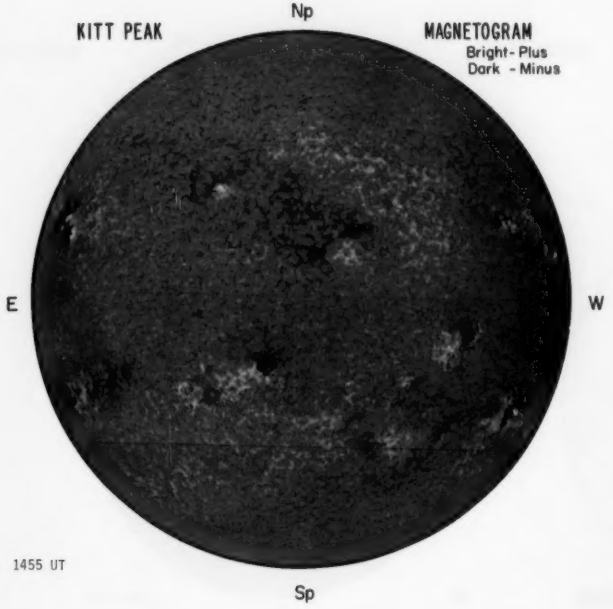

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Sp
1815 UT
Levels
0 μT
± 50
±100
±200

JUNE 26, 1979 (P = -5.23, B_o = 2.28, L_o = 280.19)

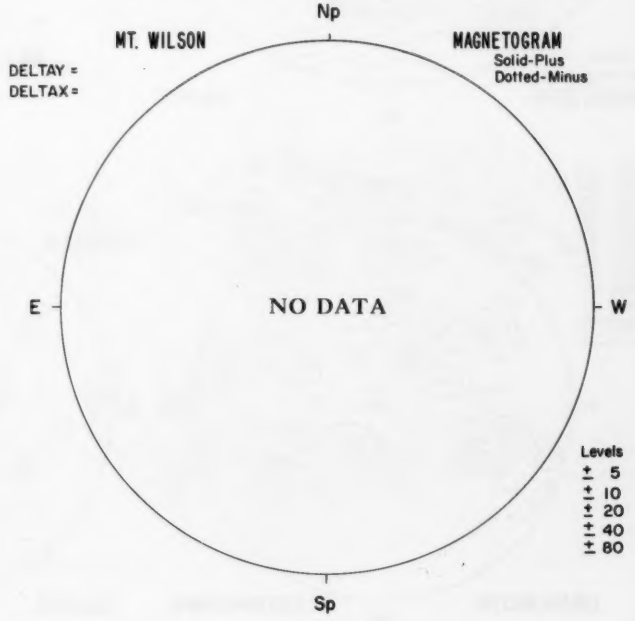
SACRAMENTO PEAK



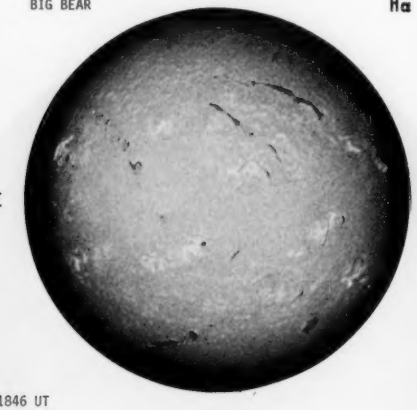
KITT PEAK



MT. WILSON

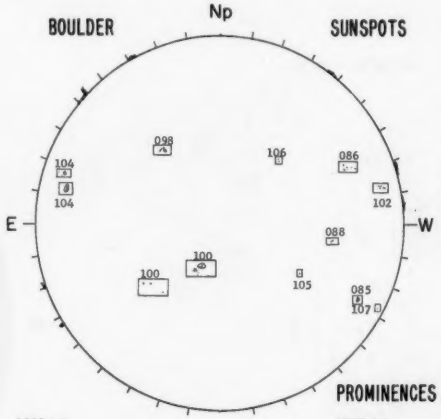


BIG BEAR Np Hα



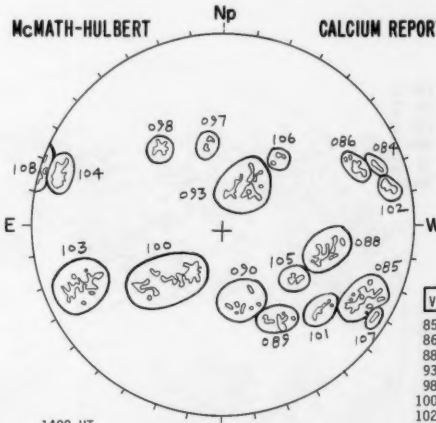
1846 UT

BOULDER Np SUNSPOTS



1345 UT PROMINENCES 1830 UT

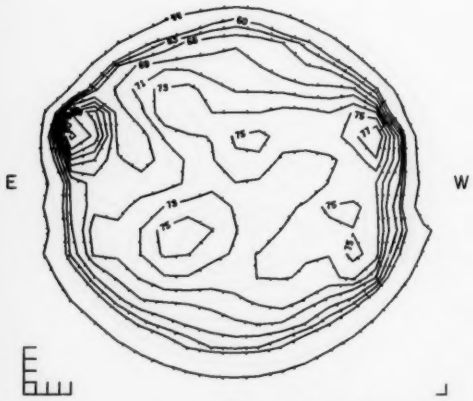
McMATH-HULBERT Np CALCIUM REPORT



1400 UT

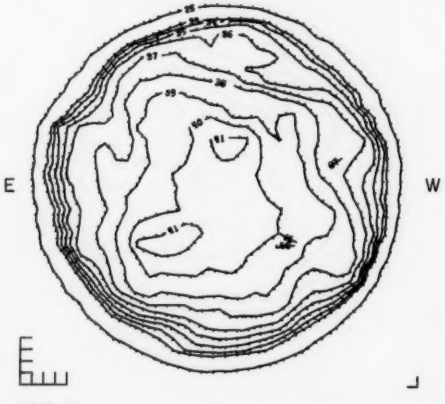
V	GOOD	S
85-	2500-3.5	
86-	0800-3.0	
88-	1400-2.5	
93-	1400-2.5	
98	0800-3.0	
100-	2200-3.0	
102-	0800-3.5	
103-	2000-3.5	
104-	2800-3.5	
107-	0300-2.5	

NOSC LA POSTA Np 2.0 CM



1511 UT Ant. Temp. Unit 100° K

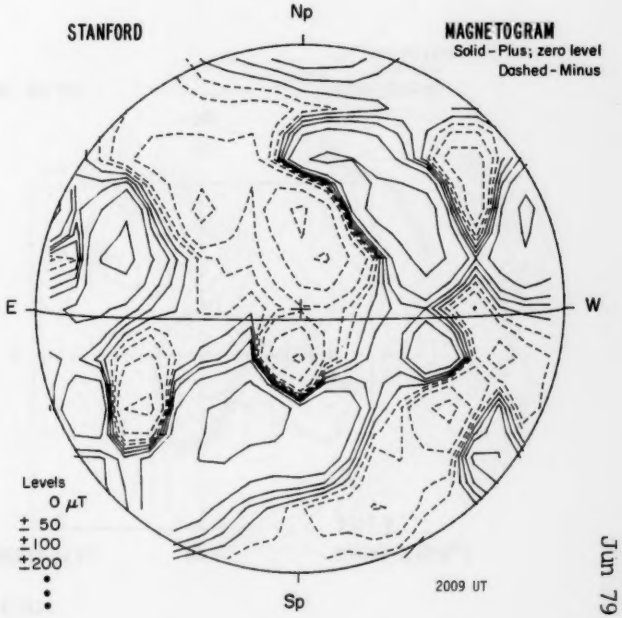
NOSC LA POSTA Np 8.6 MM



1539 UT Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

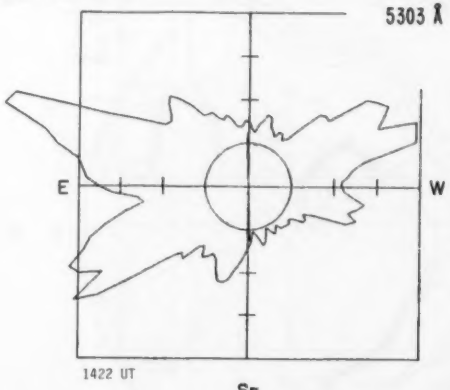


2009 UT

101
Jun 79

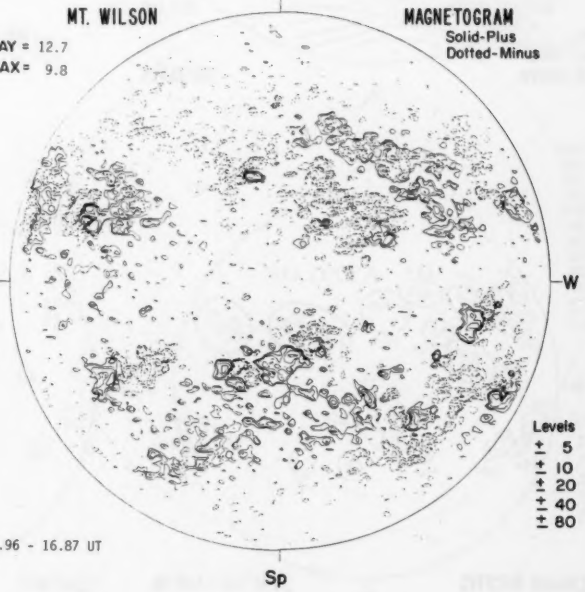
JUNE 27, 1979 (P=-4.78, B_o=2.39, L_o=266.95)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

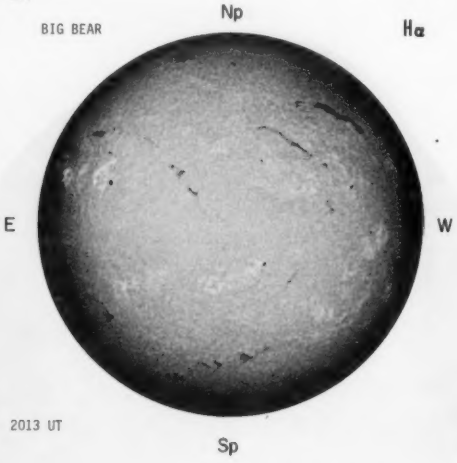


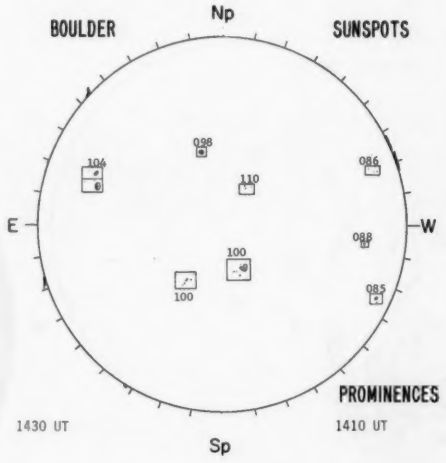
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

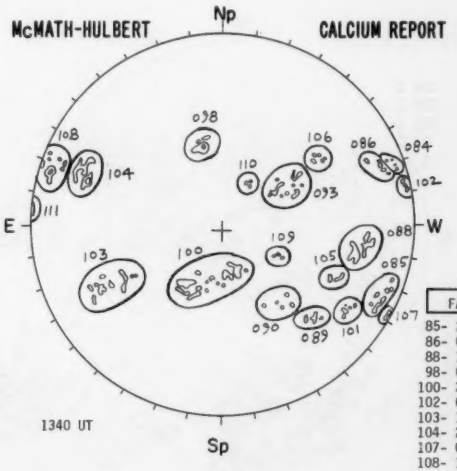
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.8

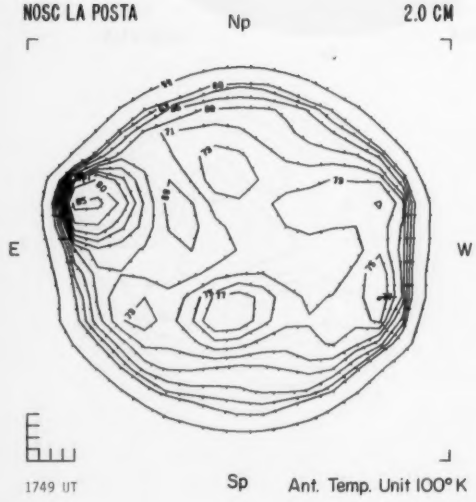


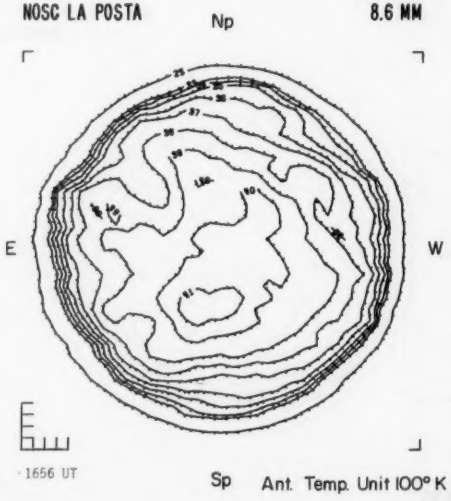
27

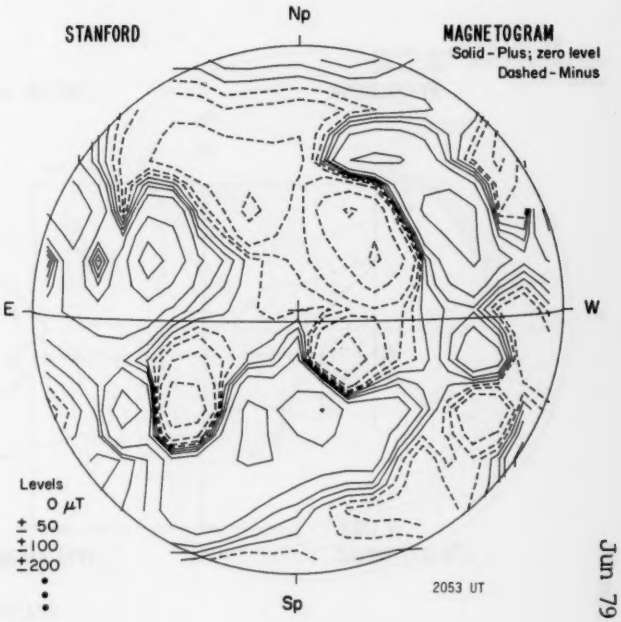

BIG BEAR
Np
Hα
E
W
Sp
2013 UT


BOULDER
Np
SUNSPOTS
E
W
Sp
1430 UT
PROMINENCES
1410 UT


McMATH-HULBERT
Np
CALCIUM REPORT
E
W
Sp
1340 UT
FAIR 5
85- 2100-3.0
86- 0700-3.0
88- 1200-2.5
98- 0800-2.5
100- 2000-3.0
102- 0800-3.0
103- 1700-3.0
104- 2500-3.5
107- 0400-2.5
108- 1600-2.5


NOSC LA POSTA
Np
2.0 CM
E
W
1749 UT
Sp
Ant. Temp. Unit 100° K

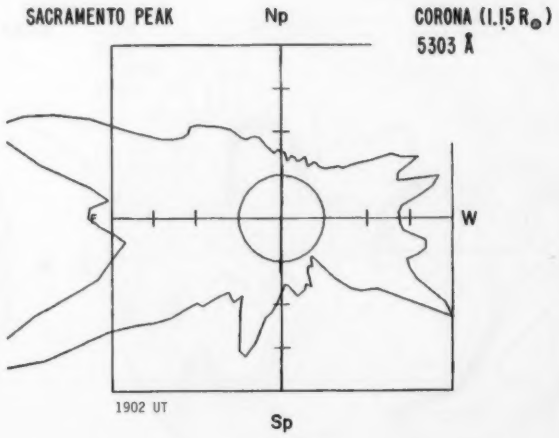

NOSC LA POSTA
Np
8.6 MM
E
W
1656 UT
Sp
Ant. Temp. Unit 100° K


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
Sp
2053 UT

103
Jun 79

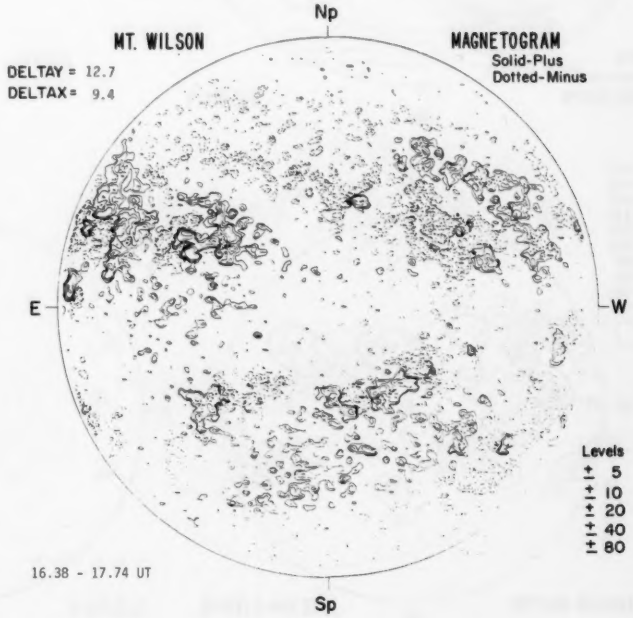
JUNE 28, 1979 (P=-4.33, B_o=2.50, L_o=253.72)

SACRAMENTO PEAK



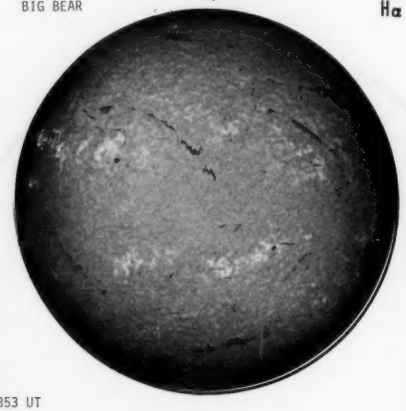
KITT PEAK

MT. WILSON



28

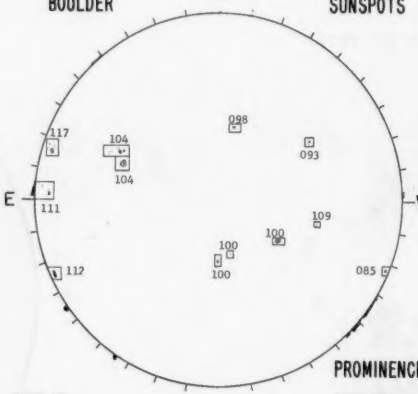
BIG BEAR Np Hα



E W

1853 UT Sp

BOULDER Np SUNSPOTS

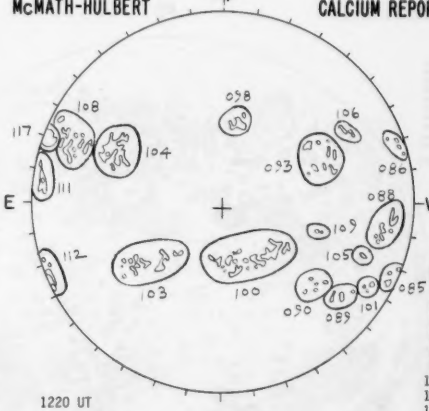


E W

PROMINENCES

1330 UT Sp 1348 UT

McMATH-HULBERT Np CALCIUM REPORT



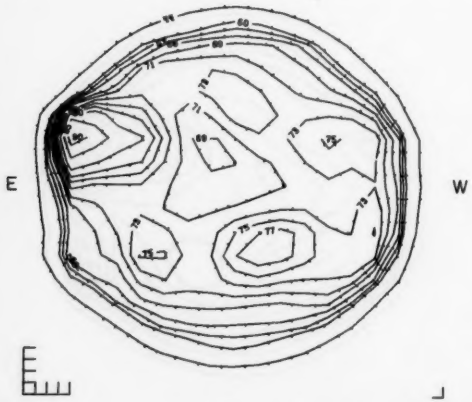
E W

GOOD	S

85- 0800-2.5
86- 0600-3.0
88- 1200-2.5
93- 1100-2.5
98- 0800-2.5
100- 2200-2.5
103- 1600-2.5
104- 2800-3.0
108- 3300-3.0
111- 1500-3.5
117- 1800-3.5

1220 UT Sp

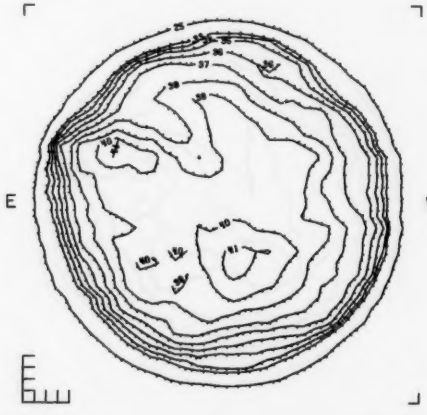
NOSC LA POSTA Np 2.0 CM



E W

1705 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

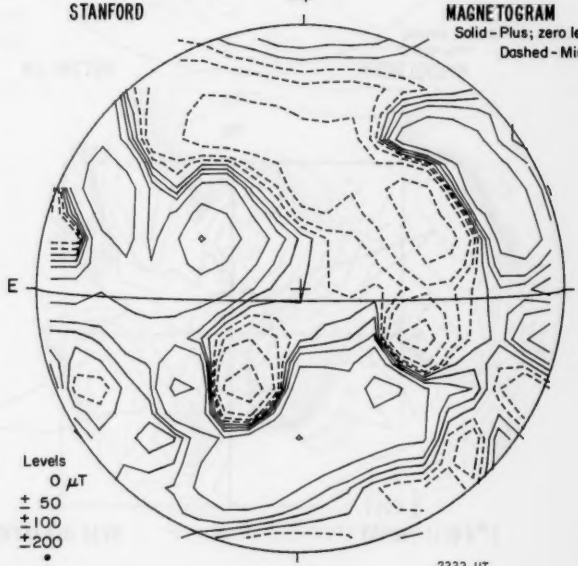


E W

1612 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



E W

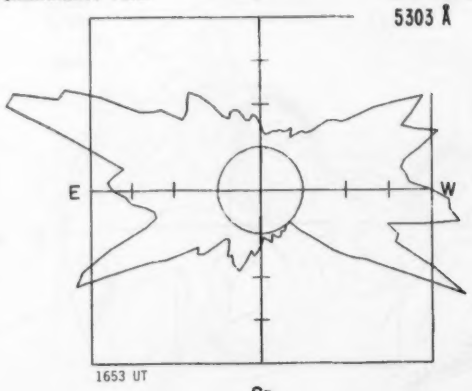
Levels
0 μT
± 50
±100
±200

2333 UT Sp

105
Jun 79

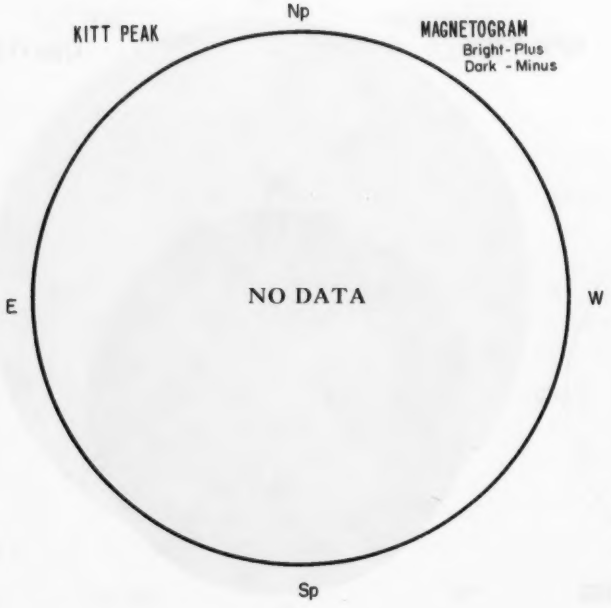
JUNE 29, 1979 (P=-3.88, B_o=2.62, L_o=240.48)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



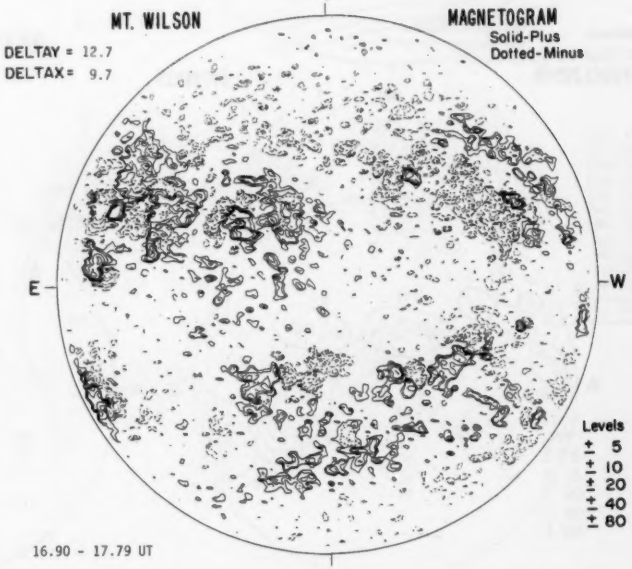
Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



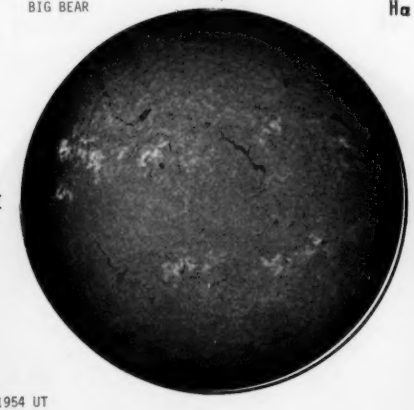
Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.7



29

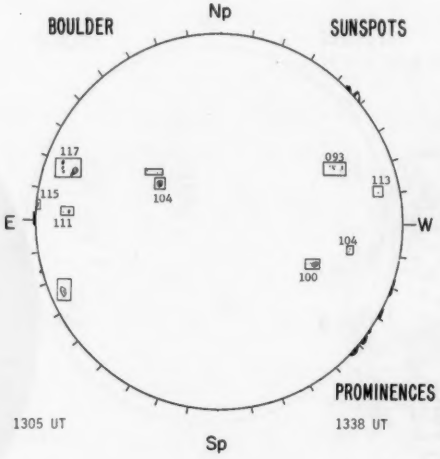
BIG BEAR



1954 UT

Hα

BOULDER



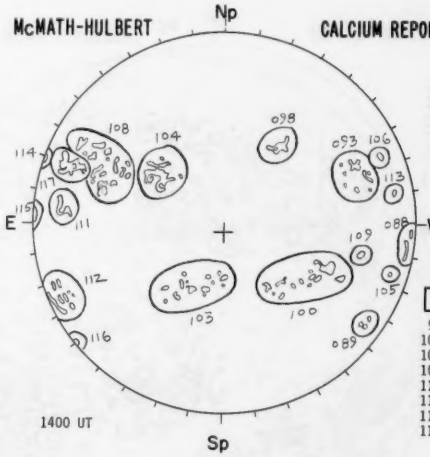
1305 UT

SUNSPOTS

PROMINENCES

1338 UT

McMATH-HULBERT



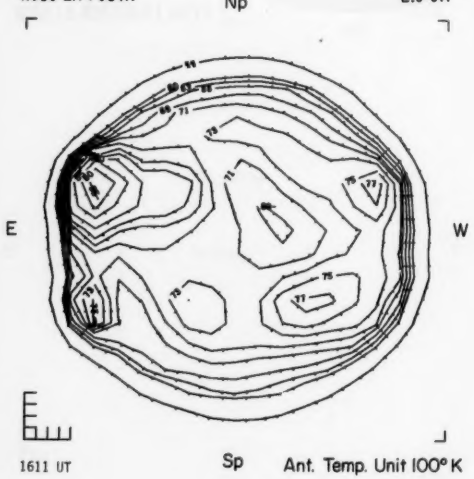
1400 UT

CALCIUM REPORT

V	POOR	S
93-	1200-	2.5
100-	2000-	2.5
104-	2200-	3.0
108-	3000-	3.0
111-	1300-	3.5
112-	2100-	2.5
113-	0200-	3.0
117-	3000-	3.5

NOSC LA POSTA

2.0 CM

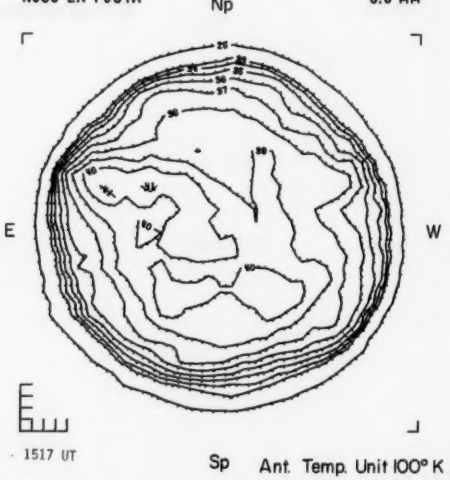


1611 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA

8.6 MM



1517 UT

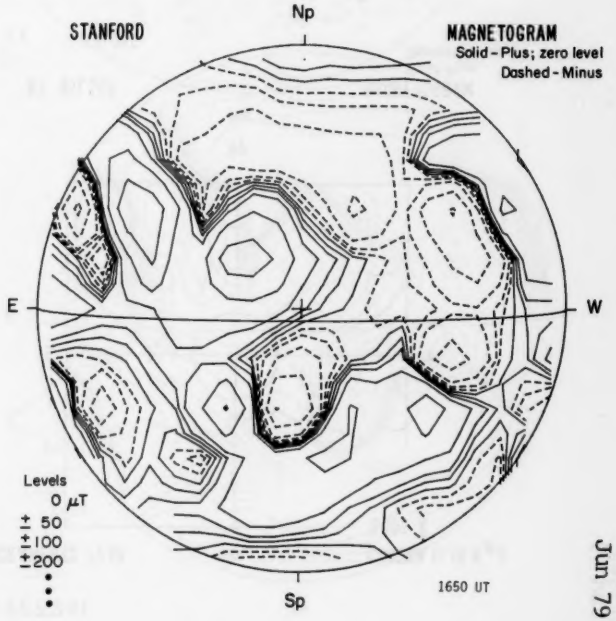
Ant. Temp. Unit 100° K

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



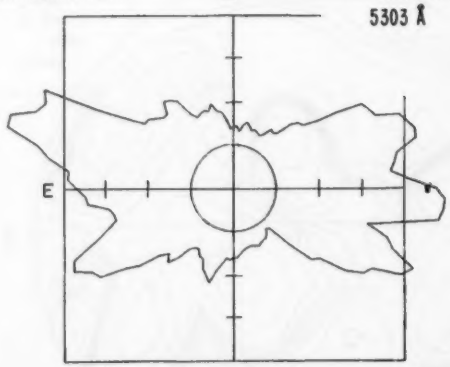
1650 UT

107

Jun 79

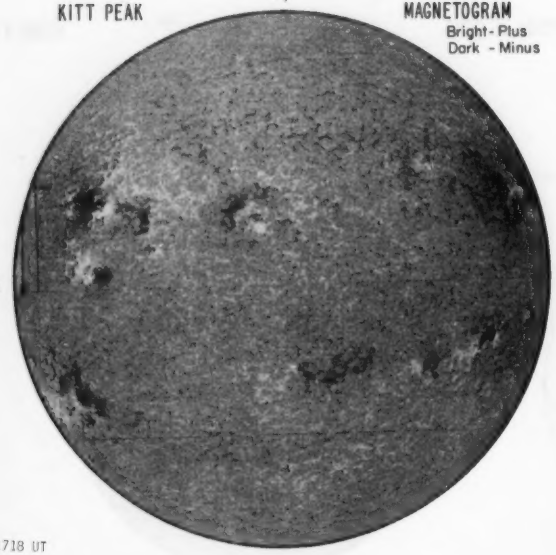
JUNE 30, 1979 (P=-3.42, B_o=2.73, L_o=227.24)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



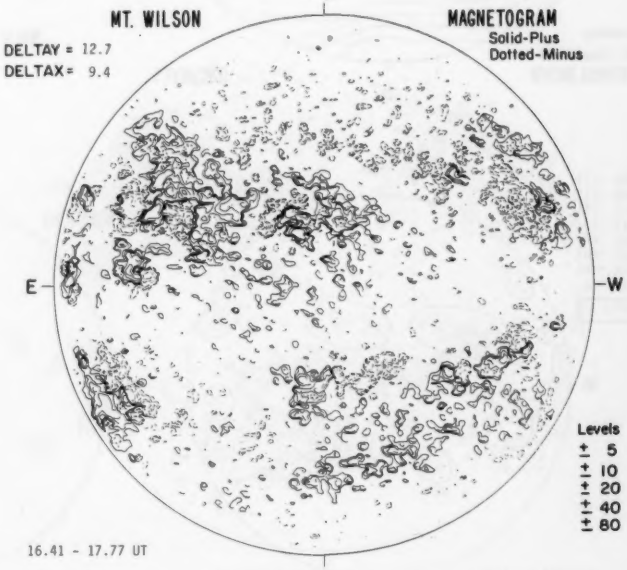
Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



Sp

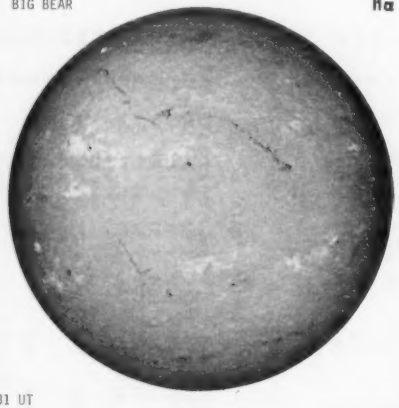
MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



Sp

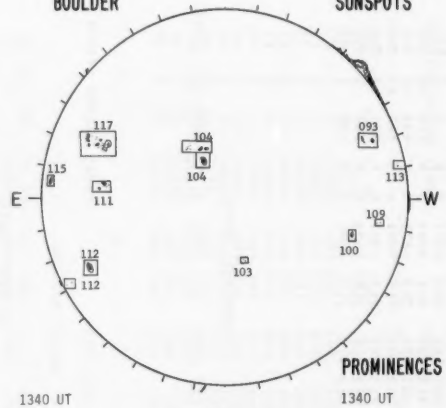
30

BIG BEAR Hα



1931 UT

BOULDER SUNSPOTS

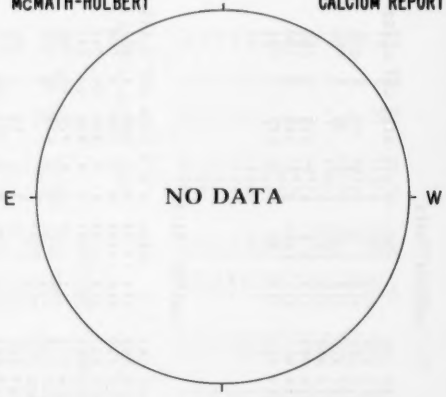


1340 UT

PROMINENCES

1340 UT

McMATH-HULBERT CALCIUM REPORT



NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

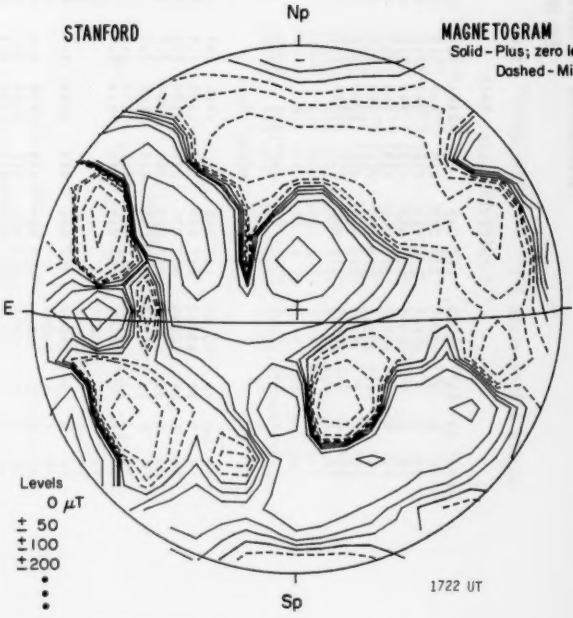
NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



1722 UT

109
Jun 79

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16061 CMP DATE 3.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	3	16061	S17 E00	216	100	2.0	20652	S17 W02	216	(AP)	2				
79	6	4	16061	S18 W15	218	400	2.5	20652	S17 W15	218	(B)	3	B	50	8	DSO
79	6	5	16061	S17 W28	218	300	3.0	20652	S17 W28	218	(BP)	2	B	30	5	CRO
79	6	6	16061	S17 W41	219	700	3.0	20652	S17 W42	219	(BF)	3				
79	6	7	16061	S16 W56	218	800	2.5	20652	S18 W54	217	(B)	4	P	150	7	CAO
79	6	8	16061	S16 W69	218	1000	3.0	20652	S19 W65	215	(AF)	2	P	100	2	CAO
79	6	9	16061	S16 W82	219	1000	2.5	20652	S19 W79	216	AP	3	H	120	2	HSX

MCMATH REGION 16046 CMP DATE 4.0

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	5	28	16046	N17 E85	211	1100	3.0	20637	N13 E80	216	(X)	4	B	100	1	HSX
79	5	29	16046	N17 E75	210	3000	3.0	20637	N14 E69	215	(AP)	5	B	130	2	CHO
79	5	30	16046	N17 E65	206	4200	3.0	20637	N15 E57	213	(B)	5	P	200	34	DAI
79	5	31	16046	N17 E49	210	5600	3.5	20637	N15 E44	213	(BP)	4	H	590	18	DAI
79	6	1	16046	N17 E33	211	4800	3.5	20637	N14 E31	211	(B)	4	B	720	55	DKC
79	6	2	16046	N17 E18	211	4800	3.5	20637	N13 E17	212	(D)	5	B	670	29	DKC
79	6		16046					20647	N20 E14	215	(AP)	2				
79	6		16046					20648	N07 E22	207	(B)	3	B	10	2	BXO
79	6	3	16046	N17 E06	210	4500	3.5	20637	N13 E04	210	(BP)	5	B	550	24	DKI
79	6		16046					20648	N07 E06	208	(AP)	2	B	0	1	AXX
79	6	4	16046	N17 W07	210	4800	3.5	20637	N13 W09	212	(BP)	5	B	570	28	DKI
79	6	5	16046	N17 W21	211	4500	3.0	20637	N13 W23	213	(BP)	5	B	480	15	DKO
79	6	6	16046	N17 W34	212	4000	3.0	20637	N13 W36	213	(BP)	4	B	320	11	DHO
79	6	7	16046	N17 W47	209	3600	3.0	20637	N13 W49	212	(BP)	4	P	300	8	DSO
79	6	8	16046	N17 W61	210	3800	3.0	20637	N13 W65	215	(AP)	4	P	250	4	DSO
79	6	9	16046	N17 W74	211	3000	2.0	20637	N13 W78	215	(AP)	3	H	160	1	HSX
79	6	10	16046	N17 W88	213	1100	1.0									

MCMATH REGION 16049 CMP DATE 5.0

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	5	30	16049	N05 E73	198	500	1.5									
79	5	31	16049	N05 E61	198	300	1.5									
79	6	1	16049	N05 E48	196	100	1.5									
79	6	2	16049	N05 E35	194	200	1.0									
79	6	3	16049	N06 E21	195	200	1.0									
79	6	4	16049	N06 E06	197	300	1.0									

MCMATH REGION 16054 CMP DATE 5.8

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	1	16054	N35 E58	186	200	1.5									
79	6	2	16054	N35 E43	186	200	2.0									
79	6	3	16054	N35 E30	186	100	1.0									
79	6	4	16054	N36 E17	186	100	1.5									
79	6	5	16054	N36 E03	187	100	1.0									

MCMATH REGION 16062 CMP DATE 5.9

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	4	16062	N10 E17	186	200	2.5	20656	N11 E18	185	(B)	4	B	30	6	CSO
79	6	5	16062	N10 E04	186	800	2.5	20656	N10 E05	185	(B)	3	B	40	10	DRO
79	6	6	16062	N10 W08	186	900	3.0	20656	N10 W09	186	(B)	4	B	40	11	CSO
79	6	7	16062	N10 W23	185	900	2.5	20656	N10 W22	185	(B)	4	P	50	6	CSO
79	6	8	16062	N10 W35	184	1000	2.0	20656	N10 W34	184	(AP)	2	P	20	3	BXO
79	6	9	16062	N11 W49	186	900	2.5									
79	6	10	16062	N10 W63	188	800	2.5									
79	6	11	16062	N10 W76	187	300	3.0									

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16051 CMP DATE 6.3 RETURN OF REGION 15990 ROTATION 6

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	5	31	16051	N18 E78	181	3400	3.5	20642	N19 E77	180	(BY)	4	H	230	2	CAO
79	6	1	16051	N18 E58	186	5800	3.5	20642	N19 E63	179	(D)	4	B	950	32	DKC
79	6	2	16051	N19 E46	183	6100	3.5	20642	N19 E50	179	(D)	4	B	1030	34	DKC
79	6	3	16051	N20 E33	183	6400	4.0	20642	N19 E35	179	(D)	5	B	970	33	DKC
79	6	4	16051	N20 E22	181	6500	4.0	20642	N20 E23	180	(D)	5	B	970	59	EKI
79	6	5	16051	N20 E09	181	6500	3.5	20642	N20 E10	180	(D)	4	B	630	64	EKI
79	6	6	16051	N20 W03	181	6000	4.0	20642	N20 W03	180	(D)	4	B	690	40	EKI
79	6	7	16051	N20 W18	180	6100	3.5	20642	N20 W16	179	(D)	4	P	500	50	EAI
79	6	8	16051	N20 W31	180	6000	3.5	20642	N20 W30	180	(Y)	3	P	500	28	EAI
79	6	9	16051	N21 W44	181	6500	3.5	20642	N20 W44	181	(Y)	3	H	360	45	EKI
79	6	10	16051	N21 W56	181	6500	3.5	20642	N20 W57	181	(BY)	3	B	340	28	DKI
79	6	11	16051	N21 W69	180	6500	3.0	20642	N20 W71	182	(BY)	3	B	10	6	BXO
79	6	12	16051	N21 W81	178	3500	2.5		N21 W84				B	30	5	BXO

MCMATH REGION 16072 CMP DATE 6.7

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	11	16072	S06 W64	175	100	1.5									

MCMATH REGION 16056 CMP DATE 7.3 RETURN OF REGION 15992 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	1	16056	N07 E78	166	2200	3.5	20645	N07 E74	168	(AP)	5	B	130	1	HHX
79	6	2	16056	N08 E64	165	2200	3.5	20645	N07 E61	168	(AP)	4	B	300	1	HSX
79	6	3	16056	N08 E50	166	1700	3.0	20645	N07 E47	167	(AP)	5	B	320	1	HHX
79	6	4	16056	N08 E37	166	1500	3.0	20645	N08 E35	168	(BP)	5	B	310	2	CHO
79	6	5	16056	N08 E23	167	1500	3.0	20645	N08 E22	168	(BP)	5				
79	6	6	16056	N08 E10	168	1500	3.0	20645	N07 E08	169	(BP)	4	B	300	6	CHO
79	6	7	16056	N08 W05	167	1400	2.5	20645	N08 W05	168	(AP)	4	P	220	4	CSO
79	6	8	16056	N08 W18	167	1400	2.5	20645	N08 W18	168	(AP)	4	P	200	5	CSO
79	6	9	16056	N08 W31	168	1400	2.0	20645	N08 W32	169	(AP)	4	H	230	5	HAX
79	6	10	16056	N08 W42	167	1000	2.5	20645	N08 W45	169	(AP)	4	B	250	18	HKX
79	6	11	16056	N08 W57	168	1000	2.5	20645	N08 W58	169	(AP)	4	B	170	2	HAX
79	6	12	16056	N08 W69	166	800	2.5	20645	N08 W70	167	(AP)	3	B	140	3	CSO
79	6	13	16056	N08 W82	166	600	1.5									

MCMATH REGION 16060 CMP DATE 7.3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	3	16060	S09 E53	163	200	3.0	20653	S09 E51	163	(BP)	3				
79	6	4	16060	S09 E38	165	300	2.5	20653	S08 E37	166	(BP)	3	B	40	3	CSO
79	6	5	16060	S08 E24	166	300	2.5	20653	S09 E22	168	(AP)	4	B	20	4	BXO
79	6	6	16060	S08 E11	167	200	1.0	20653	S09 E07	170	(AP)	3	B	10	2	BXO
79	6	7	16060	S08 W04	166	200	1.0	20653	S09 W07	170	(AP)	2				
79	6	8	16060	S08 W17	166	100	1.0									
79	6	9	16060	S09 W30	167	200	1.0									
79	6	10	16060	S09 W43	168	300	1.0									

MCMATH REGION 16052 CMP DATE 7.8 RETURN OF REGIONS 15987 AND 15996 ROTATIONS 4 AND 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	5	31	16052	S23 E83	176	2000	2.0	20643	S22 E87	170	(X)	4				
79	6	1	16052	S23 E73	171	3300	3.0	20643	S22 E71	171	(BP)	5	B	350	5	EHO
79	6		16052					20646	S18 E86	156	(BP)	4	B	60	1	HSX
79	6	2	16052	S23 E65	164	5000	3.5	20643	S22 E65	164	(BP)	5	B	400	7	CSO
79	6		16052					20646	S16 E71	158	(AP)	3	B	140	1	HSX
79	6	3	16052	S22 E53	163	6300	3.5	20643	S22 E50	164	(BP)	5	B	590	10	DHI
79	6		16052					20646	S16 E57	157	(AP)	4	B	200	1	HSX
79	6	4	16052	S22 E41	162	6800	3.5	20643	S22 E32	171	(AP)	5	B	490	9	HHX
79	6		16052					20646	S15 E45	158	(AP)	4	B	140	1	HSX
79	6		16052					20657	S21 E44	159	(BF)	3	B	90	12	DSI
79	6	5	16052	S21 E27	163	6600	4.5	20643	S22 E19	171	(BP)	5	B	510	11	HHX
79	6		16052					20646	S15 E33	157	(AP)	4				
79	6		16052					20657	S20 E33	157	(BF)	3	B	40	13	DRI
79	6	6	16052	S21 E16	162	6500	3.5	20643	S22 E06	171	(BP)	5	B	550	6	CHO
79	6		16052					20646	S15 E18	159	(AP)	4	B	100	1	HSX

CONTD

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16052 (CONT) CMP DATE 7.8

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	HW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6		16052					20657	S21 E17	160	(BF)	3	B	40	17	CSO
79	6	7	16052	S21 E03	159	6300	3.0	20643	S22 W07	170	(BP)	5	P	450	8	CHO
79	6		16052					20646	S15 E06	157	(BP)	4	P	200	6	CSO
79	6		16052					20657	S20 E05	158	(B)	3	P	50	14	BXO
79	6	8	16052	S21 W10	159	6300	3.0	20643	S22 W20	170	(AP)	4	P	450	7	CHO
79	6		16052					20646	S15 W08	178	(AP)	3				
79	6		16052					20657	S21 W09	169	(B)	3	P	250	5	CSO
79	6	9	16052	S21 W24	161	6500	2.5	20643	S22 W34	171	(AP)	5	H	510	4	CKO
79	6		16052					20646	S16 W21	158	(BP)	4	H	140	4	CAO
79	6		16052					20657	S21 W23	160	(BF)	3	H	210	27	EAI
79	6	10	16052	S21 W35	160	6500	3.0	20643	S22 W47	171	(AP)	5	B	420	3	HHX
79	6		16052					20646	S15 W34	158	(AP)	4	B	50	6	CSO
79	6		16052					20657	S21 W36	160	(BF)	4	B	350	49	EKI
79	6	11	16052	S20 W48	159	6800	2.5	20643	S22 W60	171	(AP)	4	B	600	5	DHO
79	6		16052					20646	S16 W47	158	(AP)	3	B	60	1	HSX
79	6		16052					20657	S21 W47	158	(B)	4	B	480	6	CHO
79	6		16052					20668	S25 W50	161	(B)	4				
79	6	12	16052	S20 W60	157	6500	2.5	20643	S22 W73	170	(AP)	3	B	390	4	DAO
79	6		16052					20646	S15 W60	157	(AP)	3	B	80	1	HSX
79	6		16052					20657	S21 W60	157	(D)	4	B	330	15	DKI
79	6		16052					20668	S25 W65	162	(AP)	2				
79	6	13	16052	S20 W71	155	5200	3.0	20646	S16 W73	157	(B)	2	B	90	1	HSX
79	6		16052					20657	S21 W72	156	(AF)	3				
79	6		16052					20668	S24 W80	164	(AP)	2	B	150	2	DSO

MCMATH REGION 16063 CMP DATE 8.0

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	HW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	4	16063	S37 E47	156	300	2.0									
79	6	5	16063	S36 E31	159	600	3.0	20659	S35 E30	160	(B)	3	B	160	1	HSX
79	6	7	16063	S36 E05	157	500	1.5	20659	S35 W01	164	(AP)	2	P	20	1	HSX
79	6	8	16063	S35 W08	157	400	1.5	20659	S36 W14	164	(AP)	3	P	10	1	HSX
79	6	9	16063	S34 W20	157	400	1.5	20659	S36 W27	164	(AP)	3	H	10	1	AXX
79	6	10	16063	S34 W31	156	400	1.0	20659	S36 W39	163	(AP)	2	B	20	1	HRX
79	6	11	16063	S34 W44	155	400	1.5									
79	6	12	16063	S34 W57	154	400	1.0									
79	6	13	16063	S34 W69	153	300	1.0									

MCMATH REGION 16057 CMP DATE 8.8 RETURN OF REGION 15995 ROTATION 4

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	HW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	2	16057	N05 E84	145	800	2.0	20649	N04 E60	149	(AP)	3	B	160	1	HSX
79	6	3	16057	N04 E70	146	900	2.0	20649	N04 E67	147	(AP)	5	B	240	1	HSX
79	6	4	16057	N04 E56	147	700	1.5	20649	N05 E55	148	(AP)	5	B	270	1	HHX
79	6	5	16057	N04 E42	148	700	2.5	20649	N04 E42	148	(AP)	5	B	280	1	HSX
79	6	6	16057	N04 E29	149	700	2.0	20649	N04 E28	149	(AP)	5	B	260	1	HHX
79	6	7	16057	N04 E15	147	700	1.5	20649	N04 E15	148	(B)	5	P	300	1	HHX
79	6	8	16057	N04 E02	147	900	1.5	20649	N04 E02	148	(AP)	4	P	350	5	CSO
79	6	9	16057	N04 W12	149	1200	2.0	20649	N04 W12	149	(BY)	5	H	290	10	CHO
79	6	10	16057	N04 W24	149	1200	3.5	20649	N04 W25	149	(BP)	5	B	260	12	CHO
79	6	11	16057	N04 W38	149	1400	3.0	20649	N04 W37	148	(BP)	5	B	310	5	CSO
79	6	12	16057	N04 W51	148	1600	2.5	20649	N04 W50	147	(AP)	5	B	270	1	HHX
79	6	13	16057	N05 W64	148	1400	2.0	20649	N04 W64	148	(AP)	5	B	160	1	HHX
79	6	14	16057	N05 W77	149	1600	2.0	20649	N04 W77	148	(AP)	4	B	160	1	HSX

MCMATH REGION 16058 CMP DATE 9.8 RETURN OF REGIONS 15999 AND 16ØØØ ROTATIONS 3 AND 4

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	HW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	2	16058	N15 E85	144	900	2.0									
79	6	3	16058	N16 E76	140	2000	3.0	20654	N15 E70	144	(AP)	2	B	0	1	AXX
79	6	4	16058	N16 E64	139	3600	3.0	20654	N16 E59	144	(AP)	2				
79	6		16058					20658	N18 E83	133	(X)	4	B	70	1	HSX
79	6	5	16058	N16 E54	136	4800	3.5	20658	N18 E67	123	(AP)	3	B	110	1	HSX
79	6	6	16058	N16 E42	136	4500	2.5	20658	N18 E54	123	(AP)	4	B	130	1	HSX
79	6		16058					20660	N14 E32	145	(AP)	2				
79	6		16058					20661	N19 E30	147	(AP)	2				
79	6	7	16058	N17 E30	132	4500	2.5	20658	N17 E41	122	(AP)	4	P	150	1	HSX
79	6		16058					20660	N15 E18	145	B	1				
79	6	8	16058	N17 E17	132	4500	2.5	20658	N18 E28	122	(AP)	4	P	150	1	HSX
79	6	9	16058	N17 E03	134	4300	2.5	20658	N18 E14	123	(AP)	4	H	120	2	HAX
79	6	10	16058	N17 W10	135	4800	2.5	20658	N18 E03	121	(BP)	4	B	110	3	HSX

CONTD

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16058 (CONT) CMP DATE 9.8

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6		16058					20664	N06 W11	135	(BF)	2	B	30	5	DRO
79	6	11	16058	N17 W22	133	5100	3.0	20658	N18 W12	123	(BP)	4	B	110	1	HSX
79	6		16058					20667	N17 W35	146	B	1				
79	6	12	16058	N17 W36	133	5000	2.5	20658	N18 W25	122	(AP)	4	B	90	4	CSO
79	6		16058					20671	N17 W43	140	(B)	2	B	30	3	CSO
79	6	13	16058	N17 W50	134	5000	2.5	20658	N18 W37	121	(BY)	4	B	70	3	CSO
79	6	14	16058	N18 W63	135	4500	2.5	20658	N18 W51	122	(AP)	4	B	60	1	HSX
79	6	15	16058	N18 W77	136	3000	2.0	20658	N17 W63	121	(AP)	4	B	50	1	HSX
79	6	16	16058	N18 W89	135	900	1.5	20658	N17 W75	120	(AP)	3				

MCMATH REGION 16069 CMP DATE 10.1

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	9	16069	S15 E07	130	200	1.5									
79	6	10	16069	S16 W06	131	500	1.5	20665	S15 W05	129	(AF)	2	B	10	4	AXX
79	6	11	16069	S15 W20	131	600	2.0	20665	S13 W22	133	(B)	3	B	0	1	AXX
79	6	12	16069	S15 W33	130	600	2.5	20665	S15 W34	131	(BY)	2	B	50	6	CSO
79	6	13	16069	S15 W46	130	600	3.0	20675	S15 W57	141	(B)	2	B	0	2	BXO
79	6	14	16069	S14 W59	131	700	2.5									
79	6	15	16069	S14 W74	133	700	2.0									

MCMATH REGION 16064 CMP DATE 11.9 RETURN OF REGION 16003 ROTATION 2

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	5	16064	N31 E85	105	1200	2.0									
79	6	6	16064	N31 E73	105	800	1.0									
79	6	7	16064	N34 E60	102	800	1.0									
79	6	8	16064	N34 E43	106	600	1.5									
79	6	9	16064	N34 E30	107	800	1.5									
79	6	10	16064	N34 E18	107	800	1.5									
79	6	11	16064	N34 E04	107	900	1.5									
79	6	12	16064	N34 W08	105	1200	1.5									
79	6	13	16064	N34 W20	104	800	2.0									
79	6	14	16064	N34 W32	104	800	2.0									
79	6	15	16064	N34 W45	104	900	2.0									
79	6	16	16064	N34 W57	103	800	1.0									
79	6	17	16064	N35 W70	102	500	1.0									

MCMATH REGION 16067 CMP DATE 12.0 RETURN OF REGION 16014 ROTATION 2

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	5	16067	N16 E80	110	1000	2.0									
79	6	6	16067	N16 E70	108	2500	3.5	20662	N16 E76	101	B	3	B	10	2	CRO
79	6	7	16067	N16 E58	104	3600	4.0	20662	N15 E62	101	(B)	4	F	300	16	DSO
79	6	8	16067	N16 E43	106	4000	3.5	20662	N15 E49	101	(B)	4	P	400	26	EHI
79	6	9	16067	N16 E30	107	4400	3.5	20662	N17 E35	102	(B)	5	H	1020	46	EKI
79	6	10	16067	N16 E19	106	4200	3.0	20662	N17 E22	102	(B)	5	B	950	73	EKI
79	6	11	16067	N16 E06	105	4600	3.0	20662	N17 E10	101	(B)	5	B	1190	14	EKI
79	6	12	16067	N16 W07	104	4800	3.5	20662	N17 W04	101	(B)	4	B	1010	42	EKI
79	6	13	16067	N16 W19	103	4300	3.5	20662	N17 W17	101	(BY)	4	B	1130	18	EKO
79	6	14	16067	N16 W31	103	4500	3.5	20662	N17 W30	101	(B)	4	B	1060	16	EKO
79	6	15	16067	N17 W43	102	4200	3.0	20662	N17 W43	101	(BY)	4	B	870	23	EKI
79	6	16	16067	N17 W57	103	4500	3.0	20662	N17 W54	99	(B)	4				
79	6	17	16067	N17 W70	102	4100	3.0									
79	6	18	16067	N17 W80	99	3200	2.5	20662	N18 W77	95	B	3	B	210	3	DAO

MCMATH REGION 16065 CMP DATE 12.9 RETURN OF REGION 16008 ROTATION 2

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	5	16065	S18 E89	101	800	1.5									
79	6	6	16065	S17 E78	100	1300	2.5	20663	S17 E79	98	X	3	B	10	1	HRX
79	6	7	16065	S18 E69	93	1200	3.5	20663	S17 E70	93	(B)	3	P	300	12	DSO
79	6	8	16065	S17 E56	93	2100	3.0	20663	S18 E56	94	(B)	4	P	480	28	EHI
79	6	9	16065	S17 E42	95	2600	3.5	20663	S17 E43	94	(B)	4	H	640	15	DKO
79	6	10	16065	S17 E31	94	2800	3.0	20663	S17 E30	94	(B)	4	B	720	39	DKO
79	6	11	16065	S17 E17	94	3200	3.0	20663	S17 E17	94	(BY)	5	B	520	13	DKO
79	6	12	16065	S17 E05	92	3800	3.0	20663	S17 E04	93	(BY)	5	B	530	35	EKO

CONTD

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16065 (CONT) CMP DATE 12.9 RETURN OF REGION 16008 ROTATION 2

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6		16065					20672	S12 E04	93	(B)	3	B	30	3	CRO
79	6		16065					20673	S23 E04	93	(B)	3	B	30	5	CSO
79	6	13	16065	S16 W07	91	3800	3.5	20663	S17 W07	91	(BY)	5	B	630	22	EKI
79	6		16065					20672	S12 W08	92	(B)	3	B	20	5	BXI
79	6	14	16065	S16 W20	92	3800	3.5	20663	S17 W22	93	(D)	4	B	480	17	DHI
79	6		16065					20672	S12 W22	93	(AP)	2	B	0	2	AXX
79	6	15	16065	S16 W34	93	3600	3.0	20663	S17 W34	92	(BY)	4	B	380	23	EHI
79	6		16065					20672	S13 W42	100	(B)	3	B	50	3	DSO
79	6	16	16065	S16 W47	93	3600	3.0	20663	S17 W47	92	(B)	4	B	410	10	DKO
79	6		16065					20672	S13 W55	100	(B)	2	B	20	2	BXO
79	6	17	16065	S16 W60	92	3500	3.5									
79	6	18	16065	S16 W73	92	3200	3.5	20663	S16 W75	93	(B)	3				
79	6	19	16065	S16 W86	92	1700	2.5									

MCMATH REGION 16068 CMP DATE 14.1

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	8	16068	N09 E73	76	500	1.5									
79	6	9	16068	N09 E60	77	300	1.5									
79	6	10	16068	N08 E47	78	400	1.5									
79	6	11	16068	N08 E34	77	200	1.0									
79	6	12	16068	N09 E21	76	200	1.5	20674	N10 E21	76	(AP)	3	B	10	1	AXX
79	6	13	16068	N09 E08	76	100	1.0									
79	6	14	16068	N09 W06	78	200	1.0									
79	6	15	16068	N08 W18	77	200	1.5									
79	6	16	16068	N08 W32	78	200	1.0									
79	6	17	16068	N09 W45	77	100	1.0									

MCMATH REGION 16075 CMP DATE 14.5 RETURN OF REGION 16018 ROTATION 2

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	8	16075	N40 E78	71	200	1.0									
79	6	9	16075	N42 E65	72	200	1.0									
79	6	10	16075	N41 E53	72	200	1.5									
79	6	11	16075	N42 E38	73	300	1.0									
79	6	12	16075	N42 E26	71	400	1.0									
79	6	13	16075	N42 E13	71	400	1.0									
79	6	14	16075	N42 E00	72	600	1.0									
79	6	15	16075	N42 W11	70	400	1.0									
79	6	16	16075	N42 W24	70	600	1.0									
79	6	17	16075	N43 W36	68	500	1.0									
79	6	18	16075	N41 W47	66	500	1.5									
79	6	19	16075	N41 W59	65	200	1.5									
79	6	20	16075	N42 W71	64	300	1.0									

MCMATH REGION 16077 CMP DATE 15.0

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	15	16077	S22 W07	66	100	1.5									
79	6	16	16077	S22 W20	66	100	1.0									

MCMATH REGION 16070 CMP DATE 15.4 RETURN OF PART OF REGION 16012 ROTATION 2

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	9	16070	N25 E78	59	900	2.0									
79	6	10	16070	N23 E68	57	800	3.0	20666	N24 W63	187	(AP)	2				
79	6	11	16070	N24 E53	58	700	3.5	20666	N23 E52	59	(B)	3	B	10	2	AXX
79	6	12	16070	N24 E37	60	700	3.5	20666	N24 E38	59	(B)	3	B	40	8	CSI
79	6	13	16070	N24 E25	59	800	2.5									
79	6	14	16070	N24 E12	60	500	2.5	20679	N24 E09	62	(AP)	3				
79	6	15	16070	N24 W02	61	500	2.5									
79	6	16	16070	N24 W15	61	500	2.0									
79	6	17	16070	N24 W28	60	400	1.5									
79	6	18	16070	N24 W42	61	400	1.5									
79	6	19	16070	N24 W55	61	400	1.0									
79	6	20	16070	N25 W70	63	300	1.0									

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16078 CMP DATE 15.6

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	15	16078	N06 E01	58	100	1.5	20681	N05 W01	59	(B)	2	B	20	3	CSO
79	6	16	16078	N07 W13	59	400	2.5	20681	N06 W14	59	(B)	4	B	40	5	DRO
79	6	17	16078	N07 W26	58	600	3.0		N08 W27				B	130	18	DAI
79	6	18	16078	N07 W40	59	900	2.5	20681	N07 W42	60	(B)	3	B	100	5	DSO
79	6	19	16078	N07 W53	59	1000	3.0	20681	N08 W55	60	(B)	3	B	100	6	DAO
79	6	20	16078	N07 W67	60	900	2.5	20681	N07 W67	59	(B)	3	B	40	7	CRO
79	6	21	16078	N08 W85	64	400	2.5									

MCMATH REGION 16081 CMP DATE 15.8

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	15	16081	S28 E04	55	100	1.0									
79	6	16	16081	S29 W08	54	100	2.0	20683	S28 W08	53	(B)	2	B	10	3	BXO
79	6	17	16081	S29 W20	52	100	1.5									
79	6	18	16081	S28 W33	52	100	1.0									

MCMATH REGION 16095 CMP DATE 16.2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	21	16095	S28 W71	50	100	2.0									

MCMATH REGION 16074 CMP DATE 17.6 RETURN OF REGION 16023 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	11	16074	S17 E85	26	800	2.5	20669	S15 E74	37	(AP)	3	B	0	1	AXX
79	6	12	16074	S16 E67	30	1500	2.5	20669	S15 E60	37	(AP)	3	B	40	1	HRX
79	6	13	16074	S16 E55	29	1500	3.0									
79	6	14	16074	S16 E42	30	1500	2.5									
79	6	15	16074	S16 E28	31	1500	2.0									
79	6	16	16074	S16 E16	30	1100	2.0									
79	6	17	16074	S16 E02	30	1100	2.0									
79	6	18	16074	S17 W13	32	1200	2.0									
79	6	19	16074	S17 W25	31	1200	1.5									
79	6	20	16074	S16 W40	33	1000	2.0									
79	6	21	16074	S17 W54	33	700	2.0									
79	6	22	16074	S17 W66	33	700	2.0									
79	6	23	16074	S15 W79	32	600	1.0									

MCMATH REGION 16073 CMP DATE 17.7

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	11	16073	N23 E85	26	500	2.5	20670	N22 E85	26	X	3				
79	6	12	16073	N23 E70	27	1000	2.5	20670	N23 E69	28	(AP)	3	B	20	1	HSX
79	6	13	16073	N23 E56	28	1600	3.0	20670	N24 E56	28	(B)	2	B	10	2	BXO
79	6	14	16073	N24 E44	28	1500	3.0	20670	N23 E43	28	(B)	3	B	20	7	BXO
79	6		16073					20676	N23 E54	17	AP	1	B	0	1	AXX
79	6	15	16073	N23 E30	29	1400	3.0	20670	N23 E29	29	(B)	3	B	70	12	DSI
79	6	16	16073	N23 E16	30	1400	3.0	20670	N22 E15	30	(B)	3	B	150	29	DAI
79	6	17	16073	N23 E03	29	2000	3.0		N22 E03				B	170	33	DAI
79	6	18	16073	N23 W10	29	2200	3.5	20670	N23 W12	30	(B)	4	B	180	15	DAO
79	6	19	16073	N24 W23	29	2300	3.5	20670	N23 W25	30	(B)	5	B	230	17	DAO
79	6	20	16073	N24 W36	29	2500	3.0	20670	N23 W38	30	(BY)	4	B	170	12	DSO
79	6	21	16073	N24 W50	29	2300	3.0	20670	N24 W51	31	(BP)	4				
79	6	22	16073	N24 W63	30	2300	2.5	20670	N24 W68	34	(AP)	4	B	150	3	HSX
79	6	23	16073	N24 W77	30	2200	2.5	20670	N23 W80	33	(AP)	2	B	160	2	HSX
79	6	24	16073	N24 W89	29	900	1.5									

MCMATH REGION 16082 CMP DATE 17.9

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	16	16082	N08 E19	27	300	2.0	20684	N09 E17	28	(BP)	2	B	20	6	CRO
79	6	17	16082	N08 E05	27	700	3.0		N08 E04				B	80	9	DSO

CONTD

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16082 (CONT) CMP DATE 17.9

				CALCIUM		PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	18	16082	N08	W08	27	700	3.0	20684	N08	W10	28	(B)	4	B	40	6	CSO
79	6	19	16082	N08	W22	28	800	3.0	20684	N08	W25	30	(BP)	3	B	40	3	CAO
79	6	20	16082	N08	W36	29	900	3.0	20684	N08	W38	30	(B)	2	B	10	1	AXX
79	6	21	16082	N08	W51	30	600	3.0										
79	6	22	16082	N08	W63	30	500	2.5										
79	6	23	16082	N08	W77	30	500	1.5										

MCMATH REGION 16079 CMP DATE 18.9

				CALCIUM		PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	15	16079	S18	E43	16	200	1.5	20682	S17	E43	15	(AP)	2				
79	6	16	16079	S18	E31	15	200	1.5	20682	S17	E30	15	(AP)	2				
79	6	17	16079	S18	E18	14	100	1.0										
79	6	18	16079	S18	E05	14	200	1.0										
79	6	19	16079	S19	W06	12	100	1.0										

MCMATH REGION 16076 CMP DATE 19.0

				CALCIUM		PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	13	16076	N13	E76	8	600	2.5	20678	N13	E73	11	X	1				
79	6	14	16076	N13	E63	9	500	3.0										
79	6	15	16076	N14	E48	11	900	3.0										
79	6	16	16076	N14	E35	11	800	3.0										
79	6	17	16076	N14	E21	11	700	3.0										
79	6	18	16076	N14	E07	12	600	3.0	20685	N13	E06	12	(B)	2	B	20	6	CSO
79	6	19	16076	N14	W06	12	800	3.0										
79	6	20	16076	N15	W19	12	700	2.5		N17	W16				B	30	4	AXX
79	6	21	16076	N15	W33	12	700	2.5										
79	6	22	16076	N15	W45	12	500	2.0										
79	6	23	16076	N15	W58	11	400	1.0										
79	6	24	16076	N15	W72	12	400	1.0										

MCMATH REGION 16091 CMP DATE 19.1 RETURN OF REGION 16024 ROTATION 2

				CALCIUM		PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	12	16091	N26	E85	12	1500	2.0										
79	6	13	16091	N26	E70	14	2200	3.0	20677	N27	E78	6	X	2				
79	6		16091						20676	N24	E69	28	(B)	2				
79	6	14	16091	N26	E58	14	2300	3.0	20677	N27	E62	9	AP	1	B	10	3	AXX
79	6	15	16091	N26	E43	16	2600	3.0	20677	N26	E50	8	(AF)	3	B	10	5	BXO
79	6	16	16091	N26	E32	14	2300	3.5	20677	N26	E37	8	(AF)	3				
79	6	17	16091	N26	E20	12	2100	3.5		N25	E24				B	20	4	CSO
79	6	18	16091	N26	E08	11	2000	3.0	20677	N27	E12	6	(AF)	3	B	40	6	DSO
79	6	19	16091	N26	W04	10	2200	3.0	20677	N27	W01	6	(BP)	3	B	50	4	CAI
79	6	20	16091	N27	W16	9	1800	3.0	20677	N27	W15	7	(B)	3				
79	6	21	16091	N27	W30	9	1800	3.0	20677	N27	W28	8	(B)	2				
79	6	22	16091	N27	W42	9	1800	2.5										
79	6	23	16091	N27	W55	8	1800	3.0										
79	6	24	16091	N27	W69	9	1800	2.5										
79	6	25	16091	N27	W80	8	900	1.5										

MCMATH REGION 16092 CMP DATE 20.0

				CALCIUM		PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	13	16092	N15	E88	357	600	1.5										
79	6	14	16092	N14	E74	359	1200	3.0	20680	N14	E70	1	(B)	2	B	20	2	BXO
79	6	15	16092	N15	E60	0	1200	3.5	20680	N14	E59	0	(BF)	3	B	140	11	DSO
79	6	16	16092	N15	E47	0	1600	3.0	20680	N14	E46	0	(B)	3				
79	6	17	16092	N15	E33	0	1500	3.0										
79	6	18	16092	N15	E20	0	1200	3.0	20680	N15	E18	0	(B)	3	B	30	3	DSO
79	6	19	16092	N15	E06	0	1000	3.0	20680	N14	E06	0	(BF)	4	B	40	5	CAO
79	6	20	16092	N16	W06	359	900	2.5	20680	N14	W06	358	(AF)	3	B	20	5	CRO
79	6	21	16092	N15	W20	359	800	2.5	20680	N14	W19	359	(AF)	3	B	10	1	AXX
79	6	22	16092	N15	W32	359	800	2.0	20680	N14	W33	359	(AP)	2	B	0	1	AXX
79	6	23	16092	N16	W45	358	600	2.0										
79	6	24	16092	N15	W58	358	400	1.5										
79	6	25	16092	N15	W68	356	400	1.0										

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16087 CMP DATE 21.2 RETURN OF PART OF REGION 16Ø31 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	15	16087	N18 E75	345	500	1.0									
79	6	16	16087	N17 E61	346	600	1.0									
79	6	17	16087	N17 E48	345	500	1.5									
79	6	18	16087	N17 E35	345	500	1.5									
79	6	19	16087	N17 E23	344	700	1.0									
79	6	20	16087	N17 E09	344	700	1.0									
79	6	21	16087	N18 W08	347	900	1.0									
79	6	22	16087	N18 W20	347	600	1.0									
79	6	23	16087	N18 W34	347	600	1.5									

MCMATH REGION 16083 CMP DATE 21.5 RETURN OF REGIONS 16Ø25 AND 16Ø26 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	15	16083	S24 E77	343	600	1.0									
79	6	16	16083	S24 E63	344	600	1.5									
79	6	17	16083	S24 E50	343	400	1.5									
79	6	18	16083	S24 E40	340	600	1.5									
79	6	19	16083	S25 E27	340	600	1.5									
79	6	20	16083	S26 E13	340	700	1.0									
79	6	21	16083	S26 E00	339	500	1.0									
79	6	22	16083	S25 W12	339	500	1.0									

MCMATH REGION 16107 CMP DATE 21.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	26	16107	S28 W66	340	300	2.5	20701	S28 W68	342	AP	2	B	10	1	AXX
79	6	27	16107	S28 W78	338	400	2.5	20701	S27 W80	339	AP	2				

MCMATH REGION 16080 CMP DATE 21.8 RETURN OF REGION 16042 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	15	16080	N34 E78	342	600	3.0									
79	6	16	16080	N35 E68	339	500	3.0									
79	6	17	16080	N35 E55	338	600	3.0									
79	6	18	16080	N35 E41	339	500	2.5									
79	6	19	16080	N35 E29	338	500	2.0									
79	6	20	16080	N35 E17	336	300	1.5									
79	6	21	16080	N35 E03	336	300	1.0									
79	6	22	16080	N35 W11	338	100	1.0									

MCMATH REGION 16102 CMP DATE 22.0

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	23	16102	N13 W20	333	300	1.5	20695	N12 W22	335	(AP)	2	B	0	1	AXX
79	6	24	16102	N12 W36	336	300	1.5									
79	6	25	16102	N12 W48	336	400	3.0	20698	N12 W48	335	(B)	3	B	90	4	BXO
79	6	26	16102	N12 W63	337	800	3.5	20698	N10 W65	339	AP	3	B	60	6	DRI
79	6	27	16102	N12 W78	338	800	3.0	20698	N11 W80	339	AP	3				

MCMATH REGION 16084 CMP DATE 22.4 RETURN OF PART OF REGION 16Ø31 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	16	16084	N18 E80	327	400	1.5									
79	6	17	16084	N18 E66	327	400	2.0									
79	6	18	16084	N18 E50	330	600	2.0									
79	6	19	16084	N18 E37	330	600	1.5									
79	6	20	16084	N18 E24	329	600	2.0									
79	6	21	16084	N18 E10	329	600	2.0									
79	6	22	16084	N18 W03	330	500	2.0									
79	6	23	16084	N18 W17	330	700	2.0									
79	6	24	16084	N18 W31	331	700	2.0									
79	6	25	16084	N18 W43	331	600	2.0									

CONTD

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16084 (CONT) CMP DATE 22.4

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	26	16084	N18 W58	332	400	1.5									
79	6	27	16084	N18 W71	331	300	1.0									

MCMATH REGION 16085 CMP DATE 22.5 RETURN OF REGION 16030 ROTATION 2

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	16	16085	S20 E83	324	500	1.0									
79	6	17	16085	S20 E67	326	500	1.5									
79	6	18	16085	S21 E53	327	800	1.5									
79	6	19	16085	S21 E39	328	600	1.5									
79	6	20	16085	S21 E26	327	1300	3.0	20689	S23 E26	326	(B)	4				
79	6	21	16085	S22 E12	327	1700	3.0	20689	S23 E13	327	(BP)	4				
79	6	22	16085	S23 E00	327	1700	3.0	20689	S23 E01	325	(BP)	3				
79	6		16085					20693	S19 W01	327	(AP)	3				
79	6	23	16085	S22 W14	327	2500	3.0	20689	S23 W12	325	(BP)	4	B	140	4	CSO
79	6		16085					20693	S19 W13	326	(B)	3	B	40	5	BXO
79	6	24	16085	S22 W27	327	2500	3.0	20689	S24 W25	325	(BP)	4	B	180	6	CAO
79	6		16085					20693	S19 W27	327	(B)	3	B	50	5	BXO
79	6	25	16085	S22 W39	327	2500	3.0	20689	S24 W37	324	(BP)	3	B	180	6	CSO
79	6	26	16085	S22 W54	328	2500	3.5	20689	S25 W54	328	AP	4	B	90	5	HSX
79	6	27	16085	S22 W67	327	2100	3.0	20689	S23 W66	325	(AP)	4	B	60	2	DSO
79	6	28	16085	S22 W80	328	800	2.5	20689	S24 W79	325	AP	2	B	20	1	HSX

MCMATH REGION 16096 CMP DATE 22.8

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	21	16096	N67 E16	323	100	1.0									

MCMATH REGION 16086 CMP DATE 23.3 RETURN OF PART OF REGION 16031 ROTATION 3

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	17	16086	N19 E79	314	600	2.0									
79	6	18	16086	N19 E65	315	800	2.5	20686	N19 E60	319	(AP)	3	B	40	1	HSX
79	6	19	16086	N19 E51	316	500	2.5	20686	N19 E47	319	(AP)	3	B	40	1	HSX
79	6	20	16086	N19 E37	316	500	3.0	20686	N19 E33	319	(BP)	4	B	30	4	CSO
79	6	21	16086	N20 E22	317	400	2.5	20686	N19 E20	320	(B)	3	B	20	2	CRO
79	6	22	16086	N20 E10	317	300	2.5	20686	N19 E05	321	(AP)	3	B	20	1	AXX
79	6	23	16086	N20 W04	317	500	2.0	20686	N19 W09	322	(AP)	3	B	20	1	AXX
79	6	24	16086	N20 W19	319	500	2.0	20686	N18 W22	322	(BP)	3	B	20	3	BXO
79	6	25	16086	N20 W33	321	600	2.5	20686	N18 W35	322	(B)	3	B	10	5	BXO
79	6	26	16086	N20 W48	322	800	3.0	20686	N17 W48	322	AP	3	B	20	6	BXO
79	6	27	16086	N19 W60	320	700	3.0	20686	N18 W61	320	(AP)	3	B	20	3	BXO
79	6	28	16086	N18 W77	325	600	3.0									

MCMATH REGION 16101 CMP DATE 23.3 RETURN OF PART OF REGION 16032 ROTATION 4

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	17	16101	S22 E80	313	400	1.0									
79	6	18	16101	S23 E66	314	500	1.0									
79	6	19	16101	S23 E52	315	600	1.0									
79	6	20	16101	S23 E37	316	500	1.0									
79	6	21	16101	S22 E22	317	500	1.5									
79	6	22	16101	S22 E10	317	500	2.0									
79	6	23	16101	S22 W01	314	800	1.5									
79	6	24	16101	S23 W15	315	700	1.5									
79	6	25	16101	S24 W25	313	500	1.5									
79	6	26	16101	S24 W35	309	400	1.5									
79	6	27	16101	S26 W47	307	400	1.0									
79	6	28	16101	S25 W60	308	200	1.0									

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16088 CMP DATE 24.2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	18	16088	S07 E76	304	800	3.5	20687	S07 E70	309	(AP)	3	B	30	1	HSX
79	6	19	16088	S07 E64	303	1600	3.5	20687	S07 E60	306	(BP)	4				
79	6	20	16088	S07 E49	304	1600	3.5	20687	S07 E47	305	(BP)	4	B	100	10	DAO
79	6	21	16088	S07 E33	306	1400	3.5	20687	S07 E33	307	(BP)	4				
79	6	22	16088	S07 E20	307	1400	3.0	20687	S07 E18	308	(BP)	5	B	100	8	CAO
79	6	23	16088	S07 E08	305	1200	3.0	20687	S07 E06	307	(BP)	5	B	90	6	CAO
79	6	24	16088	S07 W07	307	1300	3.0	20687	S07 W07	307	(BY)	5	B	80	6	CAO
79	6	25	16088	S07 W19	307	1500	3.0	20687	S07 W21	308	(BP)	3	B	80	6	CSO
79	6	26	16088	S07 W33	307	1400	2.5	20687	S07 W38	312	AP	4	B	40	3	HAX
79	6	27	16088	S07 W47	307	1200	2.5	20687	S05 W51	310	(AP)	3	B	40	3	CRI
79	6	28	16088	S05 W60	308	1200	2.5									
79	6	29	16088	S05 W75	309	1100	1.5									

MCMATH REGION 16113 CMP DATE 24.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	29	16113	N11 W66	300	200	3.0		N12 W63				B	0	1	AXX
79	6	30	16113					20708	N10 W79	300	(AP)	2	B	10	1	AXX

MCMATH REGION 16105 CMP DATE 24.9

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	24	16105	S14 E04	296	300	1.0	20697	S16 E03	297	(AP)	2	B	0	1	AXX
79	6	25	16105	S14 W09	297	300	2.0	20697	S15 W10	297	(B)	3	B	10	2	BXO
79	6	26	16105	S14 W24	298	400	1.5	20697	S16 W27	301	AP	2	B	10	1	AXX
79	6	27	16105	S14 W38	298	300	1.5									
79	6	28	16105	S14 W50	298	200	1.5									
79	6	29	16105	S13 W65	299	100	1.0									

MCMATH REGION 16089 CMP DATE 25.1 RETURN OF PART OF REGION 16Ø32 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	19	16089	S30 E76	291	700	3.0	20688	S28 E70	296	(B)	3				
79	6	20	16089	S30 E60	293	1100	3.5	20688	S28 E57	295	(B)	3				
79	6	21	16089	S28 E43	296	1000	3.5	20688	S28 E45	295	(B)	3	B	100	2	DSO
79	6	22	16089	S28 E34	293	1200	3.0	20688	S28 E32	294	(B)	3	B	30	7	CRO
79	6	23	16089	S28 E20	293	1300	2.5	20688	S28 E21	292	(B)	3	B	40	5	CRO
79	6	24	16089	S28 E07	293	1200	2.5	20688	S29 E06	294	(AP)	3	B	0	1	AXX
79	6	25	16089	S28 W06	294	1000	2.5	20688	S29 W07	294	(AP)	2				
79	6	26	16089	S29 W21	295	1100	2.0									
79	6	27	16089	S28 W33	293	800	2.0									
79	6	28	16089	S28 W44	292	600	2.0									
79	6	29	16089	S29 W60	294	600	1.5									

MCMATH REGION 16106 CMP DATE 25.2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	25	16106	N22 W04	292	300	1.5	20699	N22 W06	293	(B)	3	B	10	2	BXO
79	6	26	16106	N22 W18	292	200	2.0	20699	N21 W21	295	AP	2	B	10	2	AXX
79	6	27	16106	N22 W32	292	300	1.5									
79	6	28	16106	N23 W45	293	300	1.0									
79	6	29	16106	N23 W62	296	300	2.0									

MCMATH REGION 16094 CMP DATE 25.8

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	20	16094	S17 E75	278	300	1.0									
79	6	21	16094	S17 E56	283	100	2.0									
79	6	22	16094	S17 E44	283	100	1.5									

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16090 CMP DATE 26.0 RETURN OF PART OF REGION 16Ø4Ø

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	19	16090	S23 E85	282	300	2.5									
79	6	20	16090	S23 E71	282	500	2.5									
79	6	21	16090	S23 E56	283	500	2.5									
79	6	22	16090	S24 E44	283	500	2.0									
79	6	23	16090	S23 E31	282	300	2.0									
79	6	24	16090	S23 E19	281	300	1.5									
79	6	25	16090	S23 E07	281	500	1.5									
79	6	26	16090	S23 W06	280	600	1.5									
79	6	27	16090	S23 W19	279	500	1.5									
79	6	28	16090	S23 W32	280	400	1.0									

MCMATH REGION 16093 CMP DATE 26.2 RETURN OF REGION 16Ø59 AND PART OF REGION 16Ø41 ROTATIONS 2 AN

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	20	16093	N11 E78	275	1500	2.5									
79	6	21	16093	N12 E60	279	1300	2.5									
79	6	22	16093	N13 E47	280	1500	2.5									
79	6	23	16093	N12 E34	279	1400	2.5									
79	6	24	16093	N12 E20	280	1300	2.5									
79	6	25	16093	N13 E09	279	1300	2.5									
79	6	26	16093	N13 W06	280	1400	2.5									
79	6	27	16093	N13 W20	280	1100	2.0									
79	6	28	16093	N14 W33	281	1100	2.5	20703	N20 W33	279	(B)	3	B	20	2	CSO
79	6	29	16093	N14 W48	282	1200	2.5	20703	N20 W46	279	(B)	4	B	60	5	CRO
79	6	30	16093					20703	N19 W57	278	(B)	3	B	90	5	DSO

MCMATH REGION 16109 CMP DATE 26.2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	27	16109	S08 W18	278	100	1.5									
79	6	28	16109	S08 W30	278	100	2.0	20704	S07 W33	279	(AP)	2	B	10	2	AXX
79	6	29	16109	S08 W46	280	200	1.5	20704	S07 W48	281	(AP)	3	B	10	2	AXX
79	6	30	16109					20704	S07 W62	283	AP	1	B	10	2	BXO

MCMATH REGION 16099 CMP DATE 26.3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	21	16099	S07 E65	274	100	1.5									
79	6	22	16099	S07 E50	277	100	1.0									

MCMATH REGION 16097 CMP DATE 26.9 RETURN OF PART OF REGION 16Ø41 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	21	16097	N26 E68	271	200	1.5									
79	6	22	16097	N27 E58	269	200	1.0									
79	6	23	16097	N26 E45	268	200	1.0									
79	6	24	16097	N27 E30	270	200	1.0									
79	6	25	16097	N26 E18	270	100	1.0									
79	6	26	16097	N27 E04	270	200	1.0									

MCMATH REGION 16110 CMP DATE 27.0

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	27	16110	N14 W08	268	100	1.5	20702	N16 W07	266	(B)	3	B	10	3	BXO

REGIONS OF SOLAR ACTIVITY

JUNE 1979

MCMATH REGION 16100 CMP DATE 27.7

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	21	16100	S13 E75	264	600	2.5	20692	S12 E73	267	(AP)	3				
79	6	22	16100	S13 E65	262	2100	2.5	20692	S12 E59	267	(AP)	4				
79	6	23	16100	S14 E55	258	1800	3.0	20692	S12 E47	266	(AP)	3	B	180	4	HSX
79	6	24	16100	S14 E41	259	1700	3.0	20692	S13 E34	266	(BP)	5	B	90	3	HSO
79	6	25	16100	S14 E28	260	1800	3.0	20692	S13 E22	265	(AP)	4	B	190	1	HXX
79	6		16100					20700	S20 E35	252	(AP)	2				
79	6	26	16100	S14 E14	260	2200	3.0	20692	S13 E07	267	AP	5	B	150	12	DSI
79	6		16100					20700	S18 E25	249	B	2	B	10	3	BXO
79	6	27	16100	S15 E02	258	2000	3.0	20692	S11 W07	266	(AP)	5	B	130	5	CSO
79	6		16100					20700	S16 E13	246	(BF)	3	B	50	4	HSX
79	6	28	16100	S15 W10	258	2200	2.5	20692	S11 W20	266	(AP)	4				
79	6		16100					20700	S17 E01	245	(AF)	3	B	80	2	HSX
79	6	29	16100	S15 W25	259	2000	2.5	20692	S11 W34	267	(AP)	4	B	140	3	HSX
79	6		16100					20700	S17 W14	247	(AP)	1				
79	6	30	16100					20692	S11 W47	268	(AP)	4	B	120	1	HSX
79	7	01	16100					20692	S11 W60		(AP)	3				
79	2	02	16100	S15 W67		1800	2.0	20692	S17 W75		(AP)	3				
79	2	03	16100	S15 W79		1600	2.0									

MCMATH REGION 16098 CMP DATE 28.2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	21	16098	N25 E89	251	600	2.5									
79	6	22	16098	N25 E75	252	600	2.5	20694	N24 E72	254	(AP)	2	B	10	2	AXX
79	6	23	16098	N25 E62	251	1200	3.5	20694	N25 E59	254	(AP)	4	B	60	1	AXX
79	6	24	16098	N25 E48	252	1000	3.0	20694	N25 E45	255	(AP)	3	B	60	2	CSO
79	6	25	16098	N25 E35	253	900	3.0	20694	N26 E34	253	(AP)	3	B	40	2	CRI
79	6	26	16098	N25 E21	253	800	3.0	20694	N24 E19	255	AP	3	B	40	8	CRI
79	6	27	16098	N25 E08	252	800	2.5	20694	N26 E07	252	(AP)	3				
79	6	28	16098	N26 W05	253	800	2.5	20694	N27 W06	252	(AP)	3	B	20	2	CSO
79	6	29	16098	N26 W19	253	900	2.0									
79	2	02	16098	N26 W59		600	1.5									
79	2	03	16098	N26 W71		400	1.0									

MCMATH REGION 16103 CMP DATE 30.3 RETURN OF REGION 16061 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	6	23	16103	S16 E89	224	600	1.0									
79	6	24	16103	S18 E79	221	1600	2.0									
79	6	25	16103	S17 E65	223	1600	2.5									
79	6	26	16103	S18 E51	223	2000	3.5									
79	6	27	16103	S18 E39	221	1700	3.0									
79	6	28	16103	S17 E23	225	1600	2.5									
79	6	29	16103	S17 E09	225	1400	2.0		S18 E04				B	10	2	BXO
79	6	30	16103					20710	S18 W07	228	(AP)	2	B	10	2	AXX
79	2	02	16103	S17 W31		1400	2.0									
79	2	03	16103	S17 W43		1600	2.0									
79	2	04	16103	S17 W55		1600	1.5									
79	2	05	16103	S17 W68		1100	1.5									
79	2	06	16103	S17 W80		700	1.0									

NOTE: NO CALCIUM SPECTROHELIOGRAMS WERE SECURED AT THE MCMATH-HULBERT OBSERVATORY ON JUNE 3Ø, 1979.
NO SUNSPOT OBSERVATIONS WERE MADE AT MT. WILSON ON JUNE 17, 1979.

DAILY CALCIUM PLAGE INDEX

JUNE 1979

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
79	6	1	42.4	79	6	11	61.1	79	6	21	31.1
79	6	2	48.4	79	6	12	55.2	79	6	22	28.7
79	6	3	59.4	79	6	13	50.9	79	6	23	30.3
79	6	4	69.6	79	6	14	44.6	79	6	24	27.4
79	6	5	78.0	79	6	15	37.0	79	6	25	29.2
79	6	6	74.4	79	6	16	35.5	79	6	26	34.3
79	6	7	69.8	79	6	17	35.9	79	6	27	28.6
79	6	8	70.9	79	6	18	33.1	79	6	28	31.1
79	6	9	68.2	79	6	19	31.0	79	6	29	32.3
79	6	10	65.7	79	6	20	32.0	79	6	30	*

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

JUNE 1979

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
01	0157	0300	0205	1-	3	1			2				*	
01	0558	0617	0610	1-	5	1		1	1				*	
01	1400	1430U	1410U	1	1		1						*	
01	1602	1617	1609	1-	3	1					3		1602	16051
01	1654	1715	1700	1-	1	1							1654	16046
01	1911	1947	1921	1-	1	1					3		*	
02	0825	0850	0828	1-	1			1					0820E	16051
02	1325	1400D	1400	1	5		1		1		4		NF	
02	1344	1423	1357	1	5	1		1	1		1		1342	16051
02	1447	1515	1504	1+	5	4		1	3		6		1442	16051
02	1748	1845	1800	1-	5				2		3		1738	16046
02	1858	1930	1906	1-	3						2		1858	16046
02	2033	2130	2047	1-	5				2		2		2031	16051
02	2239	0019	2258	1-	3				2				NF	
03	0202	0330	0232	1+	1				1				0157	16051
03	0846	1043	0907	2	5	3	1	4	2		2		0842D	16051
03	0916	0930	0920	1-	1			1	1				0910	16052
03	1432	1600	1444	2	5	6	1	2	3		6		1433	16051
04	0023	0214D	0044	1-	1				1				0025	16051
04	0321	0647	0410	3	1				1				*	
04	0347	0520	0405	2	5	3			2				0346	16051
04	1347	1403U	1353	1-	1	1							1349E	16051
04	1642	1900	1715	1-	5				2		3		1645	16051
04	1806	1833	1811	1-	1						1		1803	16051
04	1940	2041	1956	1-	5	1			2		1		1939	16051
05	0124	0344	0156	2	5	1			1		1		0124	16051
05	0457	1009	0549	2	5	4	1	2	2		1		0455E	16051
06	0023	0058	0033	1-	1				1				0026	16052
06	1437	1515	1450	1-	3			1	1		1		1434	16051
06	2106	0008	2118	2	5	3			2		3		2105	16067
07	0125	0154	0129	1-	1				1				0124	16065
07	2328	0039	2344	1-	1				1				2334	16051
08	0712	0806	0721	1-	3				2				NF	
08	1136	1210	1140	1-	1			1					*	
08	1243	1258	1249	1-	1			1					*	
08	1501	1600	1515	1-	5			1	2		4		1500	16051
08	2219	2342	2245	1-	3				2				2220	16051
09	0003	0200	0100	1-	1				1				0000E	16051
09	0721	0752	0727	1-	1				1				0720	16051
09	1335	1400U	1355	1-	1						1		1336E	16051
09	1557	1630U	1604	1-	1						1		1555E	16051
09	1833	1900	1841	1-	3						2		1833	16051
09	2210	2351	2246	1-	3				2				2210	16051
09	2239	2340	2250	1-	3				2				2235	16058
10	0807	1030	0907	3	5	1		1	2				0804	16051
10	0857	0935	0919	1	5	2		2			1		NF	
10	1759	1901	1815	1-	5	1			2		4		1800	16067
11	0448	0530	0455	1-	1				1				*	
11	1206	1256	1212	1-	1				1				*	
11	1225	1400	1233	2	5	3		4	2		5		*	
11	1752	1834	1801	1-	5	1			2	1	1		1747	16051
12	0247	0309	0251	1-	1				1				0249E	16051
13	0355	0440	0408	1-	3	1			1				NF	
13	1506	1545	1515	1-	5			1	2		4		1455	16067
15	1009	1032	1019	1-	1			1					*	
16	1016	1051	1028	1-	1			1					*	
16	1822	1903	1835	1-	5				1	1	3		1807	16067
16	2235	0026	2256	1	5	1			1		3		2236	16067
17	1219	1230	1224	1-	5			1	2		2		1222	16073
18	0623	0635	0627	2+	5	2		1	2		1		NF	
18	1810	1825	1812	1-	3	1					2		1811	16065
18	2054	2218	2106	1	5	1			1		3		2056	16073

SUDDEN IONOSPHERIC DISTURBANCES

JUNE 1979

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
19	2121	2203	2129	1-	1				1				2119	16089
21	0151	0256	0220	1-	1				1				0151	16089
22	0445	0556	0504	1	5	1		1	1				0455	16070
24	0843	0924U	0857	1-	1			1					*	
25	0528	0728D	0544	2	5	3		1	2		2		NF	
26	0707	0806	0717	1	5	2		1	2		2		0705	16108
26	1015	1100	1025	2	5	3		1	2		2		1018	16102
26	1545U	1620	1600	1-	1	1							1544	16102
26	2053	2132	2106	1-	1				1				2056	16102
29	1823	1857	1832U	1-	5	2			2	1	4		1823	16117
29	1855	1915	1905	1-	1	1							1853	16104
30	1217	1230	1221	1-	3				1		1		1215	16117

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01	0515-1300 UM (13 kHz), 1728-1844 TM
02-03	0000-2400 TN
02	0320-0407 TM
05	0000-2400 TN
06	0630-2400 CL
07	2220-2246 TM
09	0000-2400 TN
13	1513-1532 TM
14-15	2130-0300 UM (13 kHz)
17-19	0000-2400 TM
19	0000-2400 TN
21-22	0000-2400 TN
22	1505-1519 TM
25	1707-1717 TM
26	0000-2400 TN, 1000-1400 UM (16 kHz), 1200-1325 TM, 1623-1650 TM
27	0000-2400 TM

STATIONS REPORTING FOR JUNE 1979

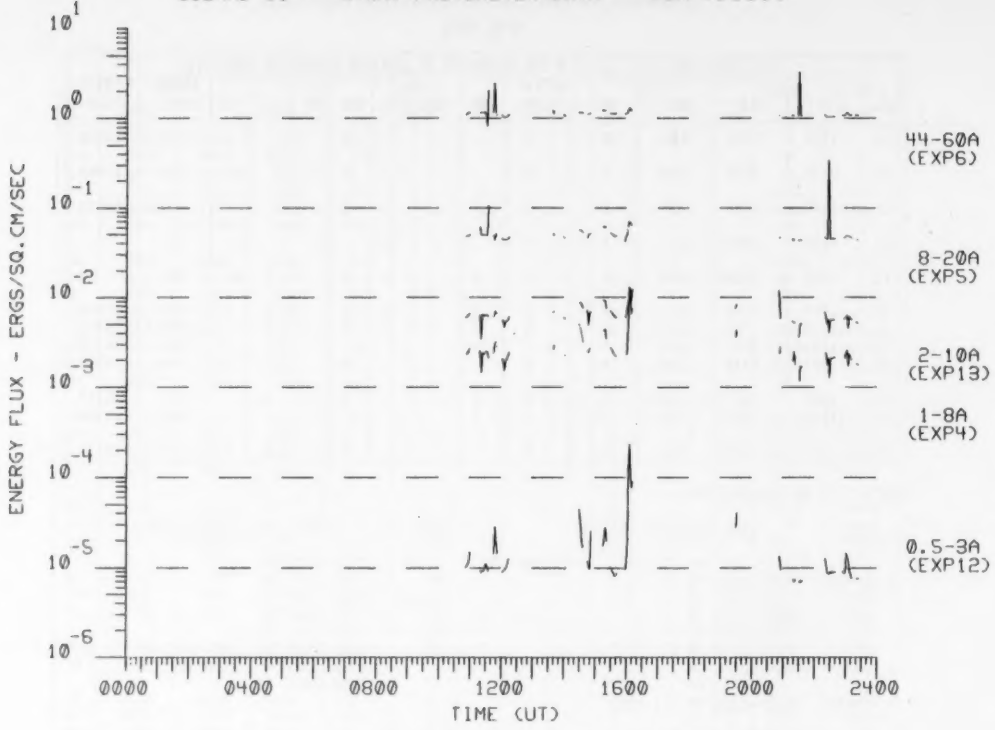
AAVSO (A21) (SES)
CHILWORTH (CL) (SCNA)
DARMSTADT (DA) (SWF)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JULIUSRUH (JH) (SWF)
KANDILLI (KD) (SEA)
KUHLUNGSBORN (KU) (SEA, SPA)
MC MATH (MC) (SWF)
NEW JERSEY (NJ) (SES)
PANSKA VES (PU) (SWF, SEA, SES)
SAO PAULO (UM) (SES, SPA)
SOFIA (SF) (SES)
SOMERTON (SO) (SWF)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORINO (TN) (SPA)
UPICE (UI) (SEA)

SIDs BY McMATH REGION

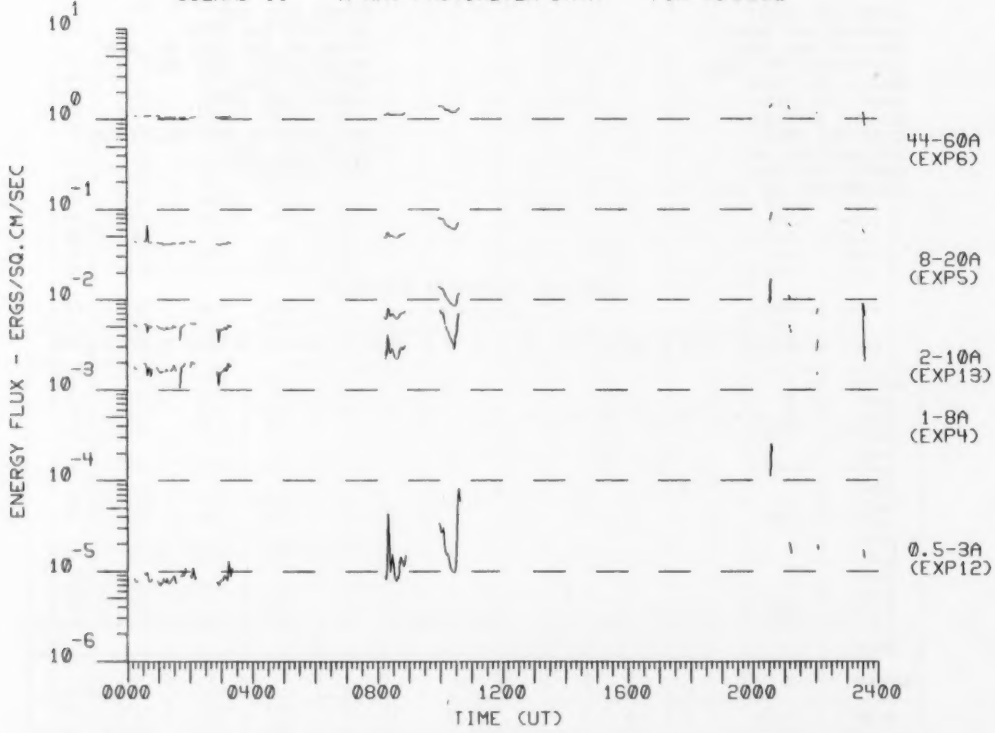
JUNE 1979

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
REGION																														
16046	1	2																												
16051	1	4	3	6	2	1	1	2	6	1	1	1																		
16052			1	1																										
16058									1																					
16065							1											1												
16067						1				1			1			1														
16070																						1								
16073																	1	1												
16089																			1		1									
16102																										3				
16104																													1	
16108																							1							
16117																													1	1
X-RAY																														
UNKNOWN		2						1		1			1											1						
NO FP	4		1					2			3			1	1		1						1						

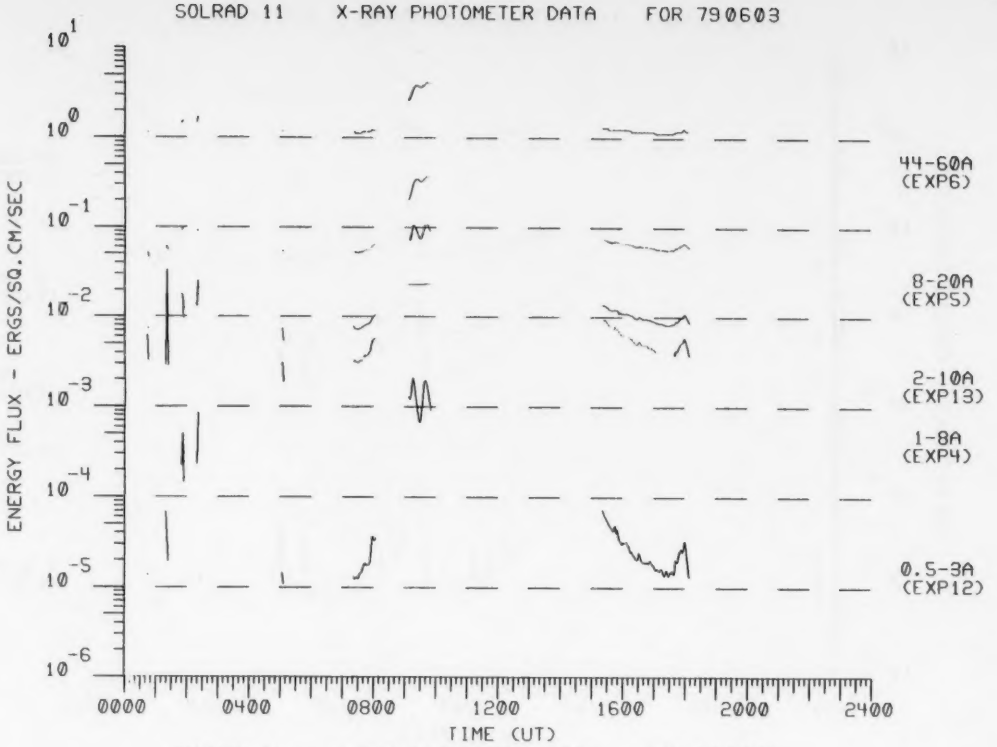
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790601



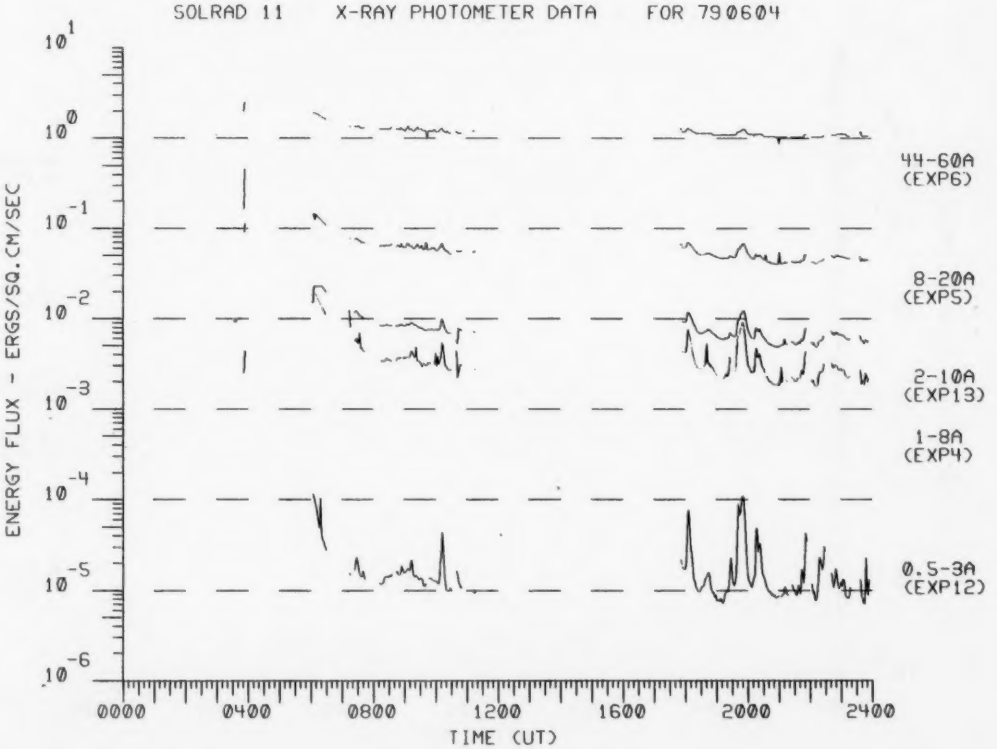
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790602

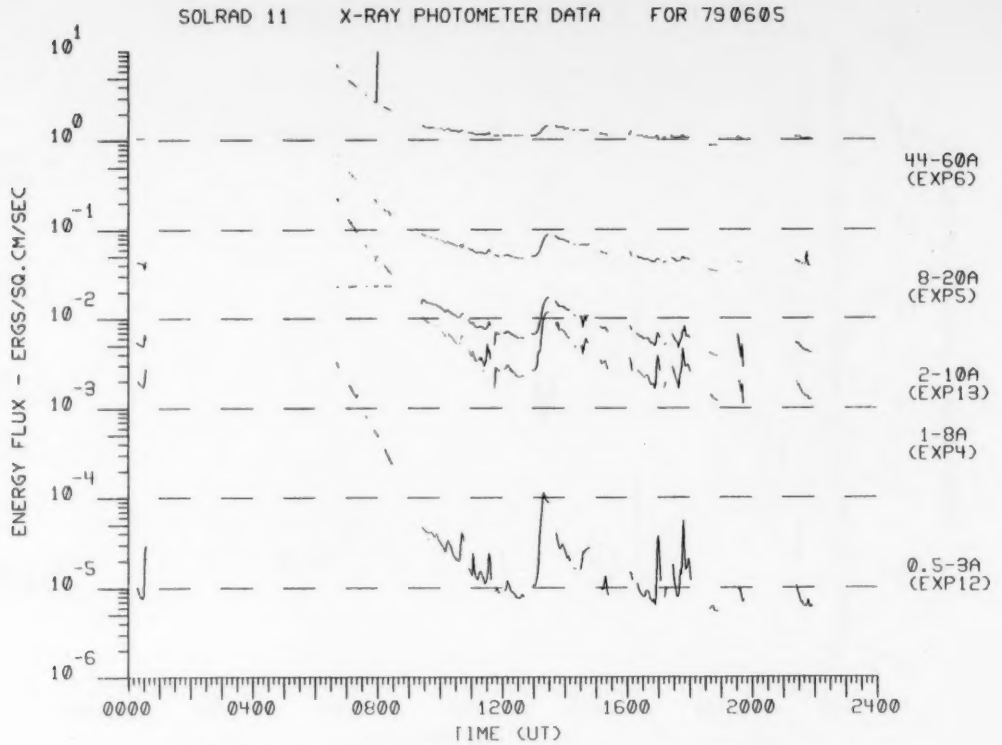


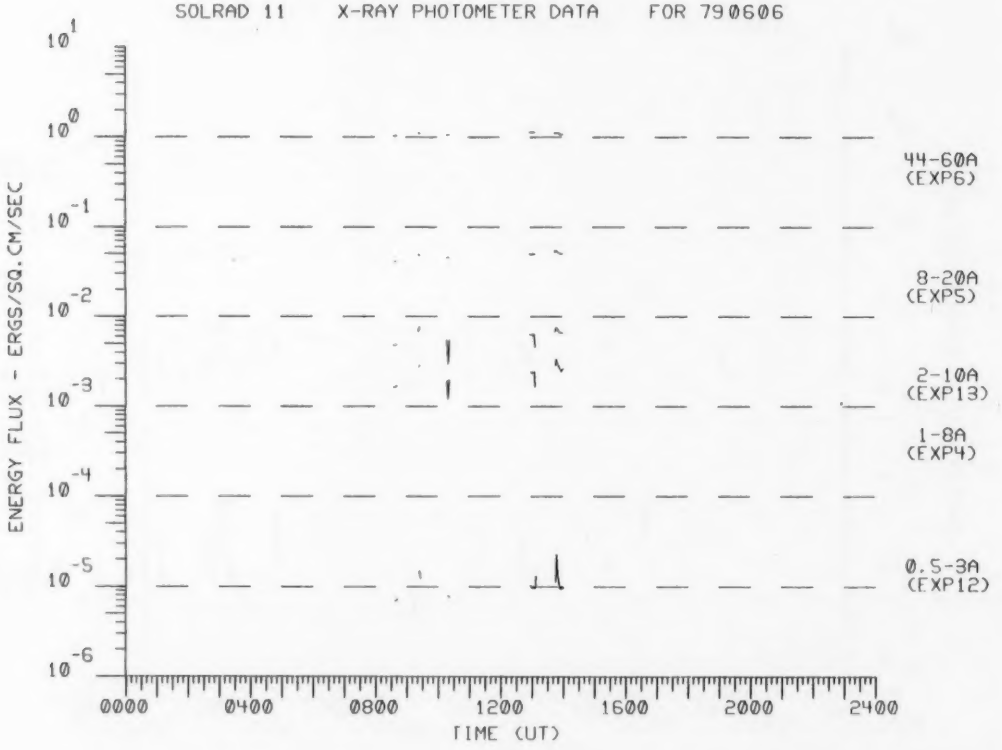
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790603



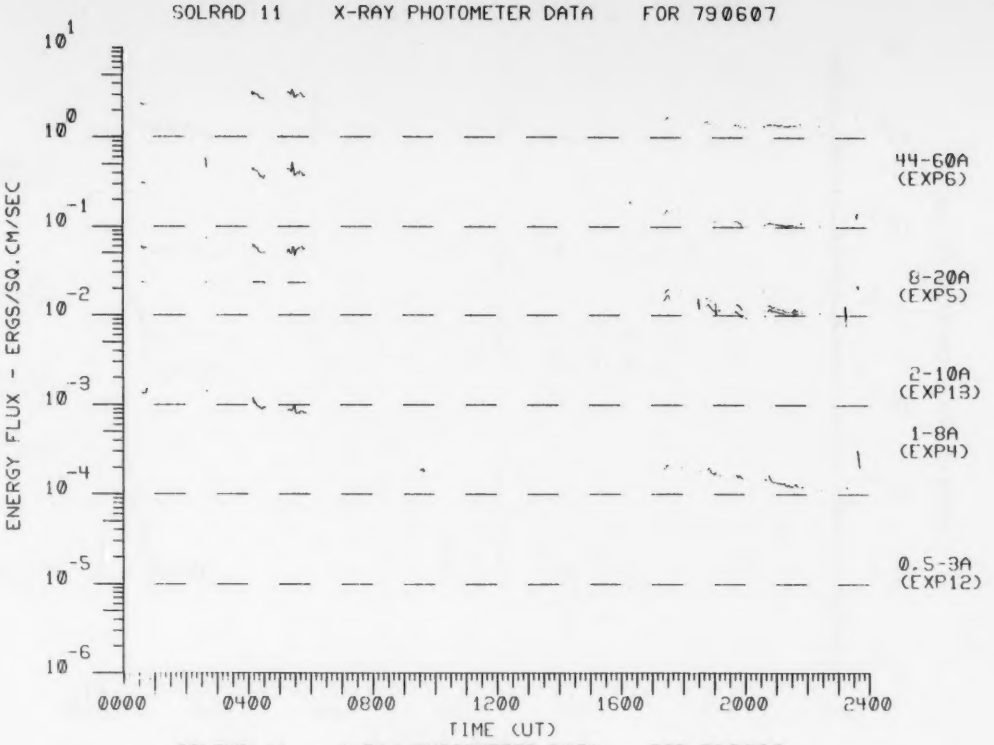
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790604



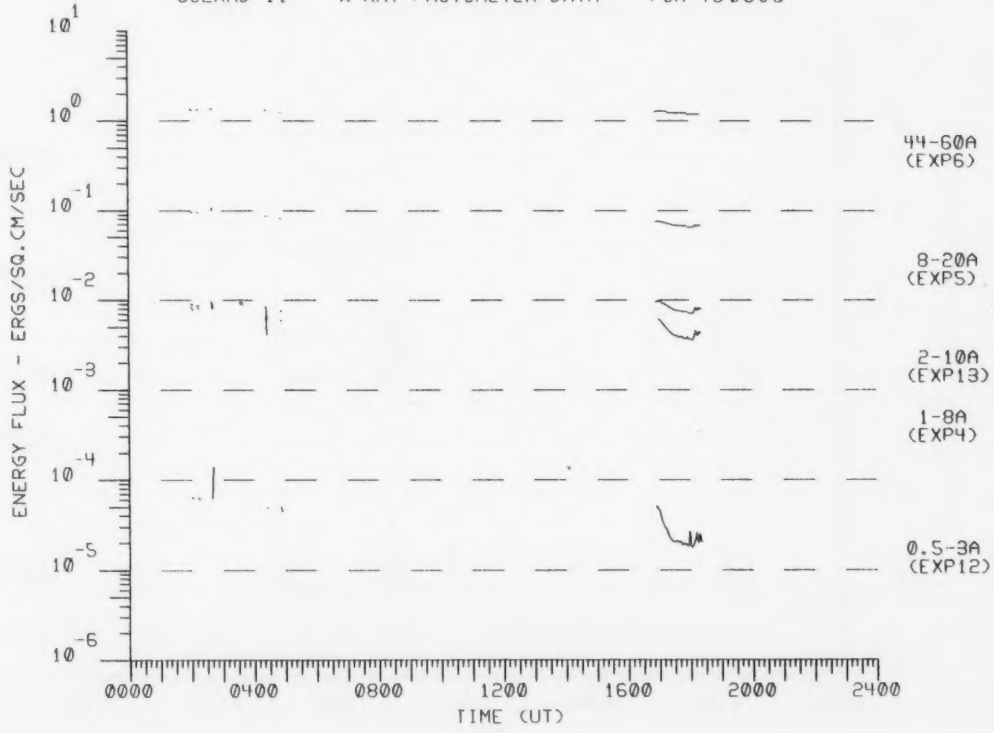

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790605
ENERGY FLUX - ERGS/SQ.CM/SEC
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

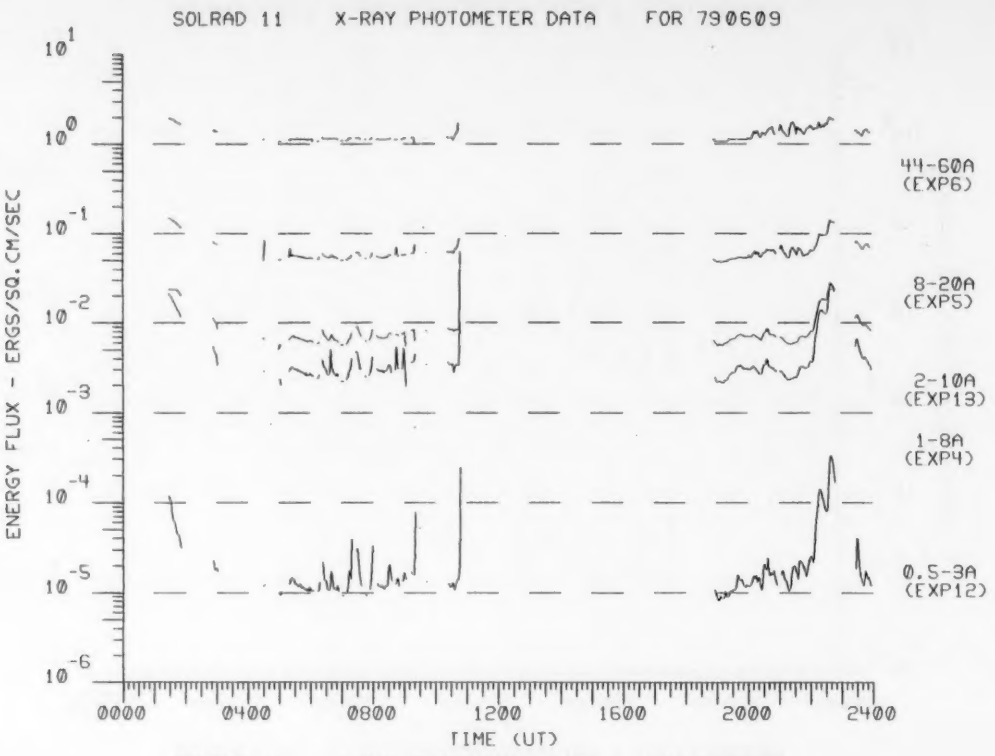

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790606
ENERGY FLUX - ERGS/SQ.CM/SEC
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

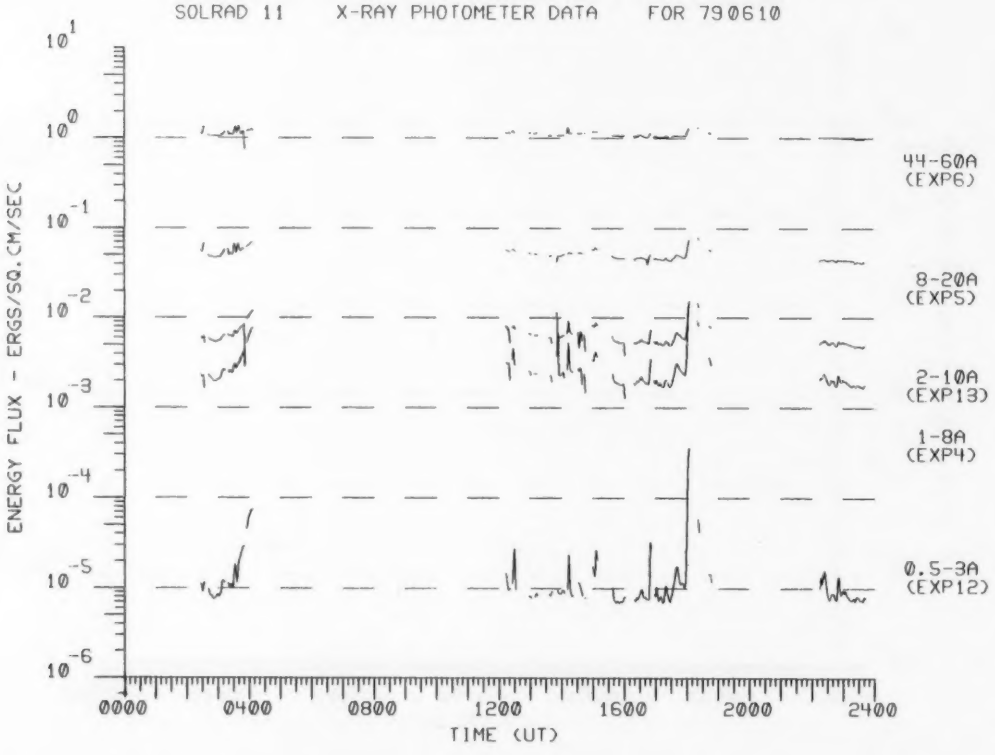
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790607



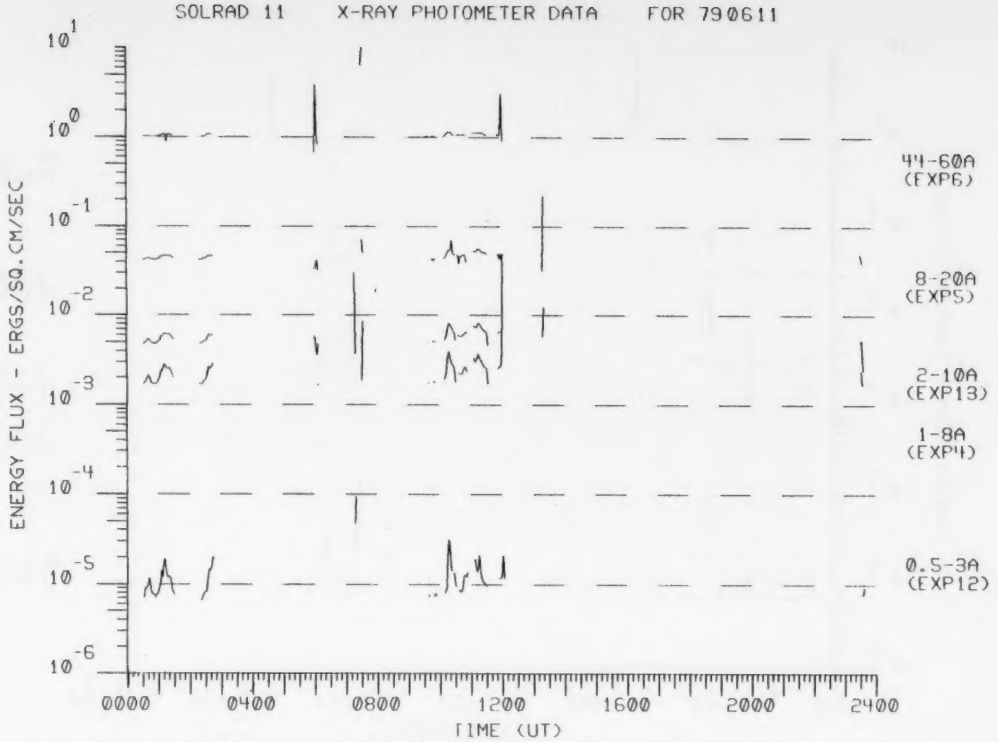
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790608



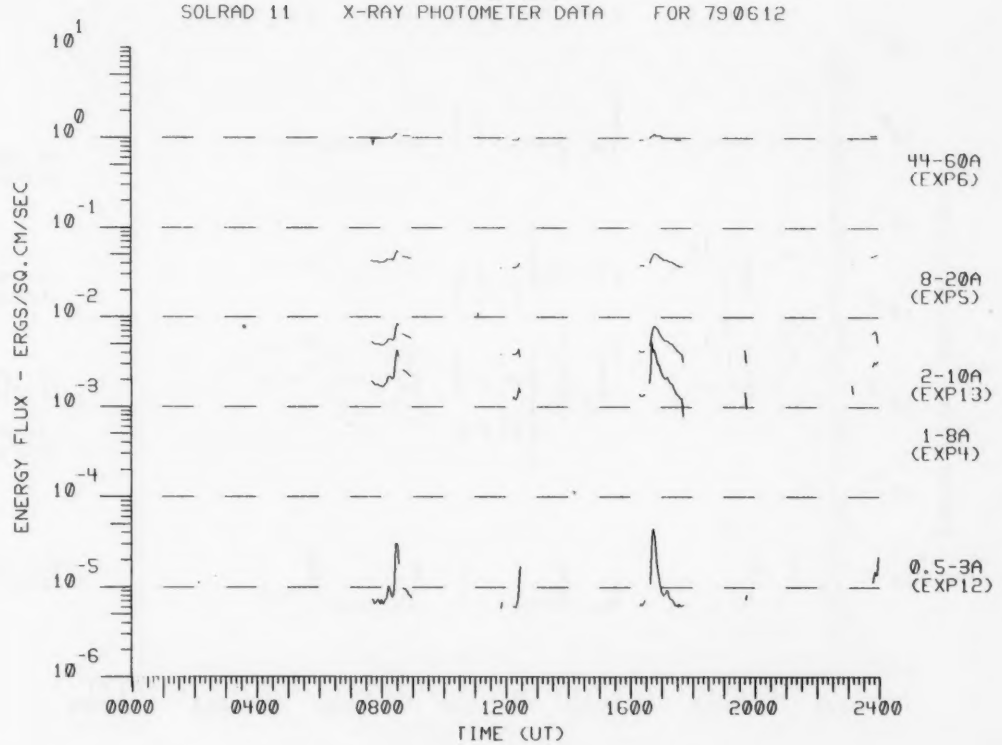

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790609
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

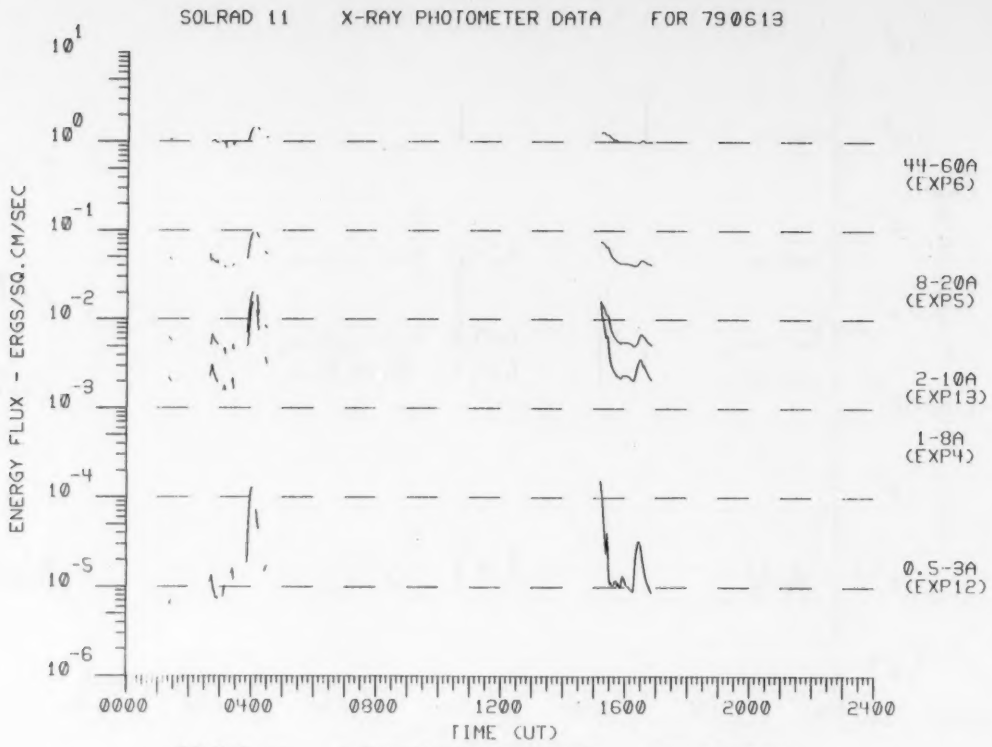

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790610
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

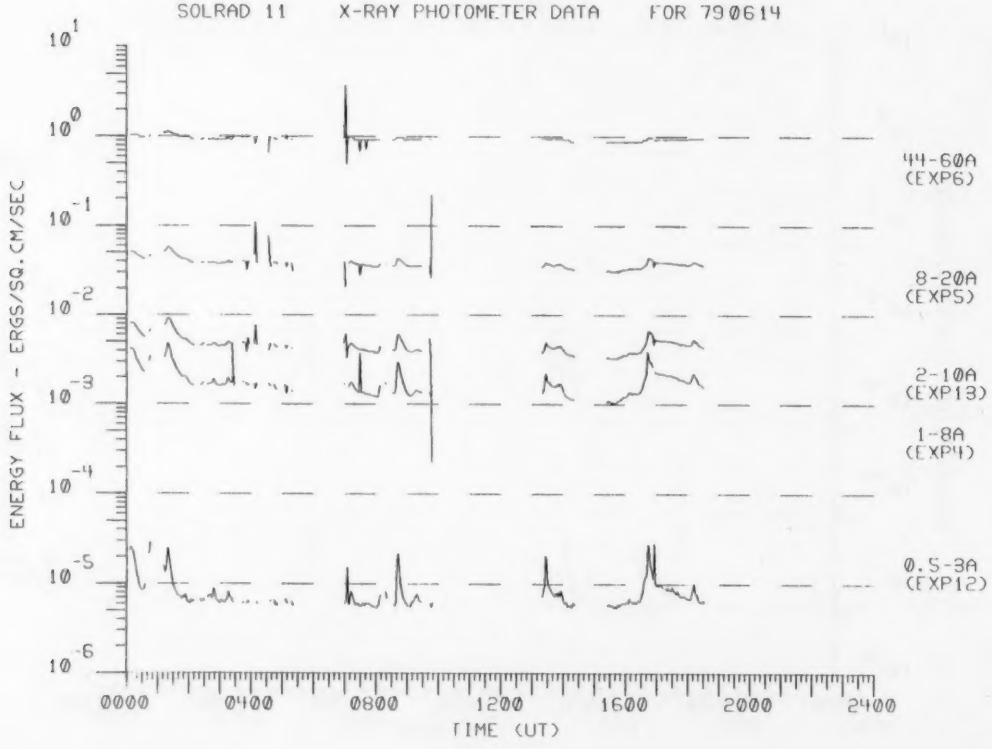
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790611

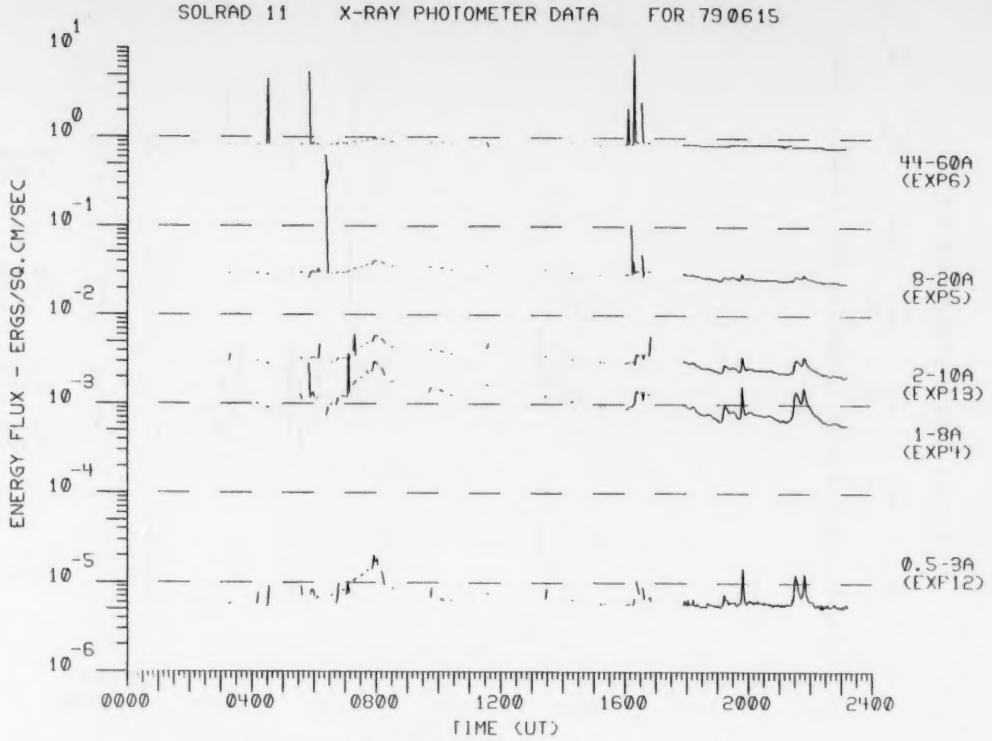


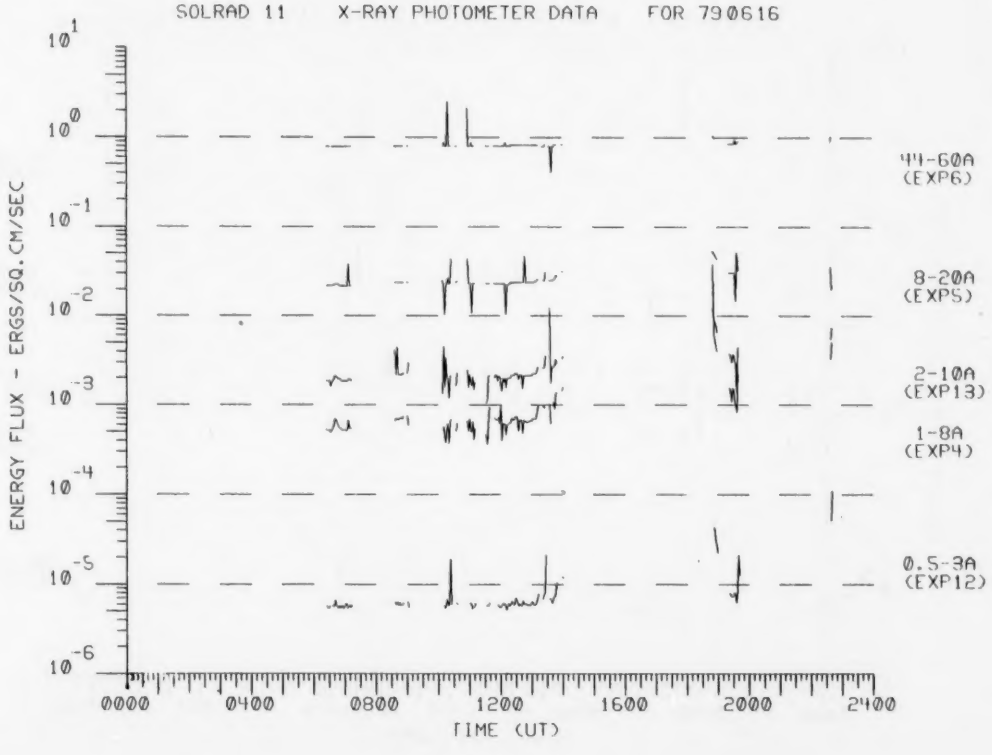
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790612

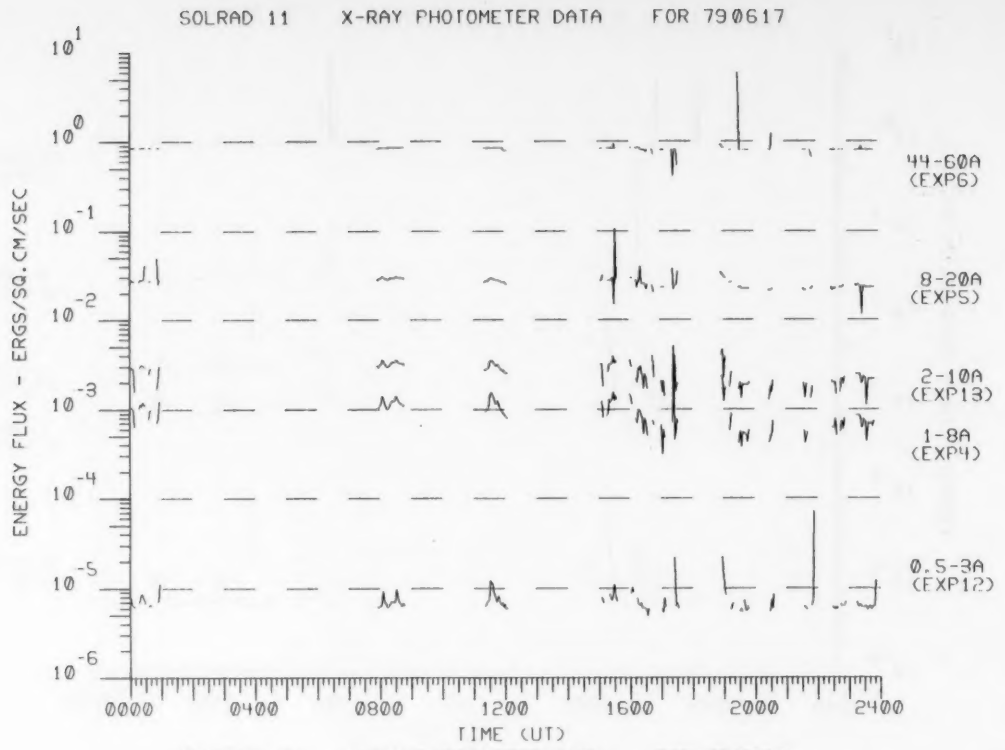


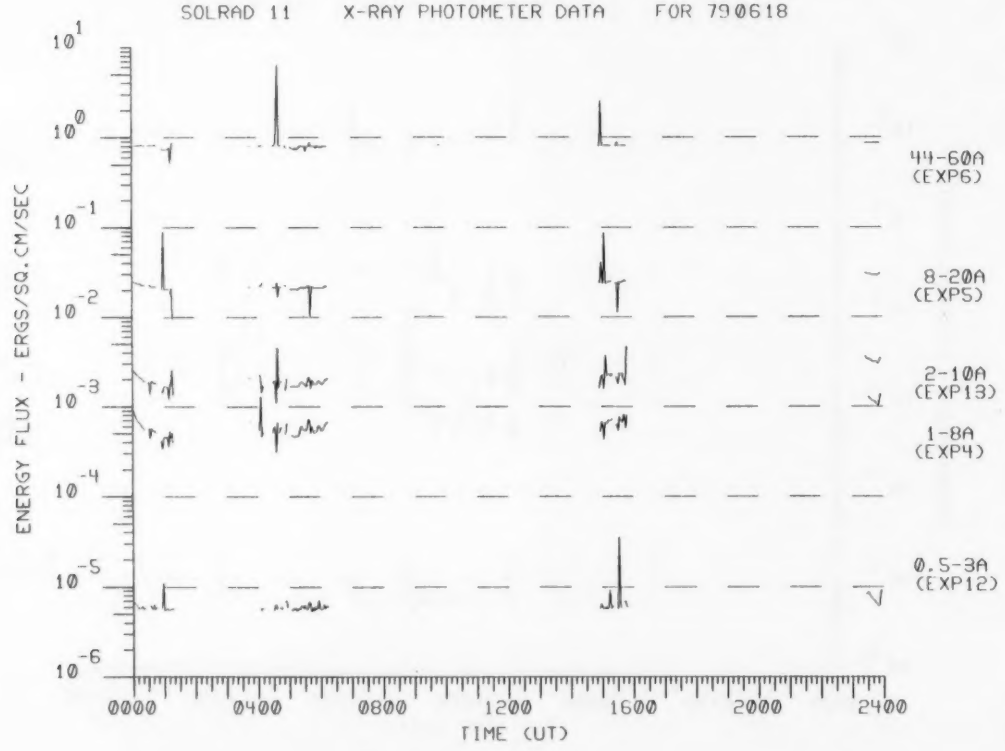

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790613
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

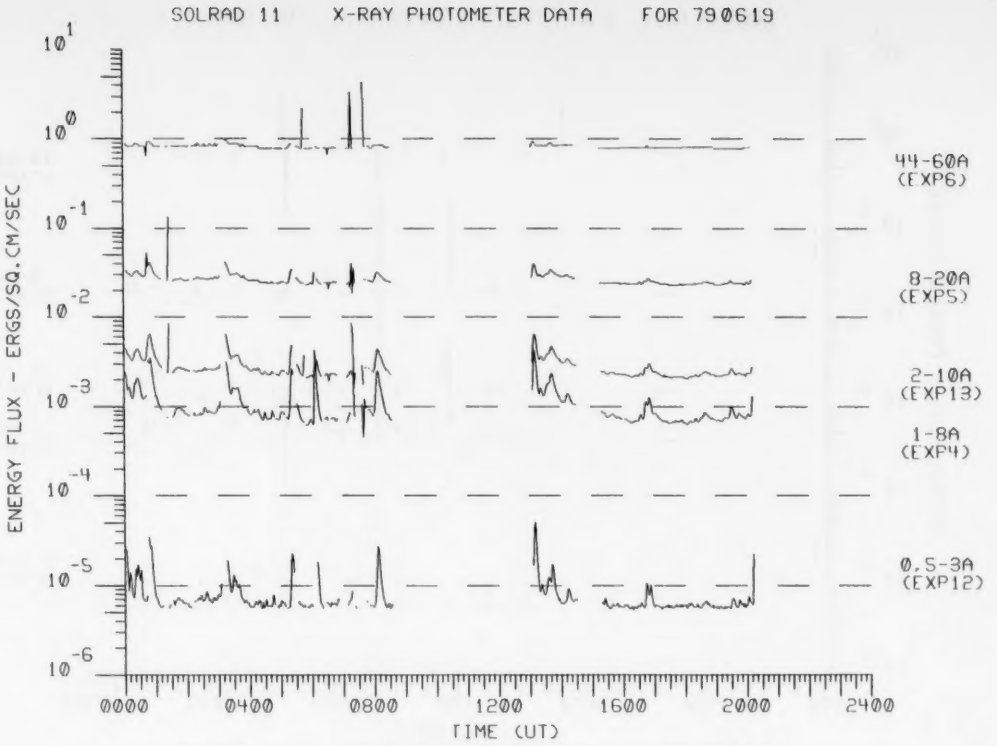

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790614
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

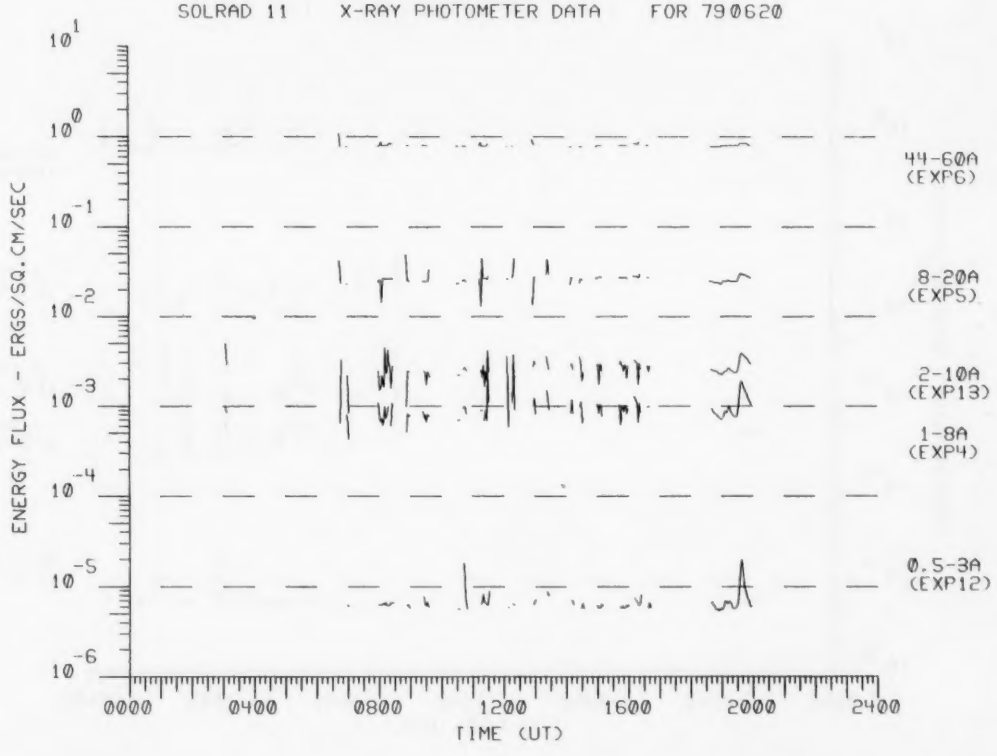

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790615
ENERGY FLUX - ERGS/SQ.CM/SEC
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

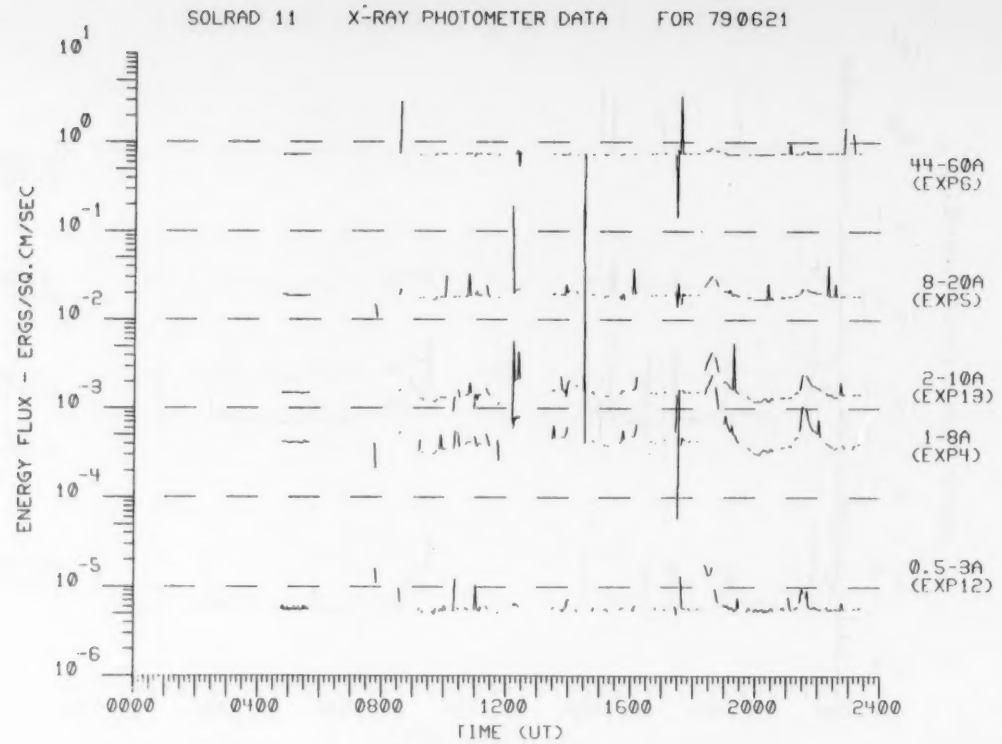

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790616
ENERGY FLUX - ERGS/SQ.CM/SEC
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

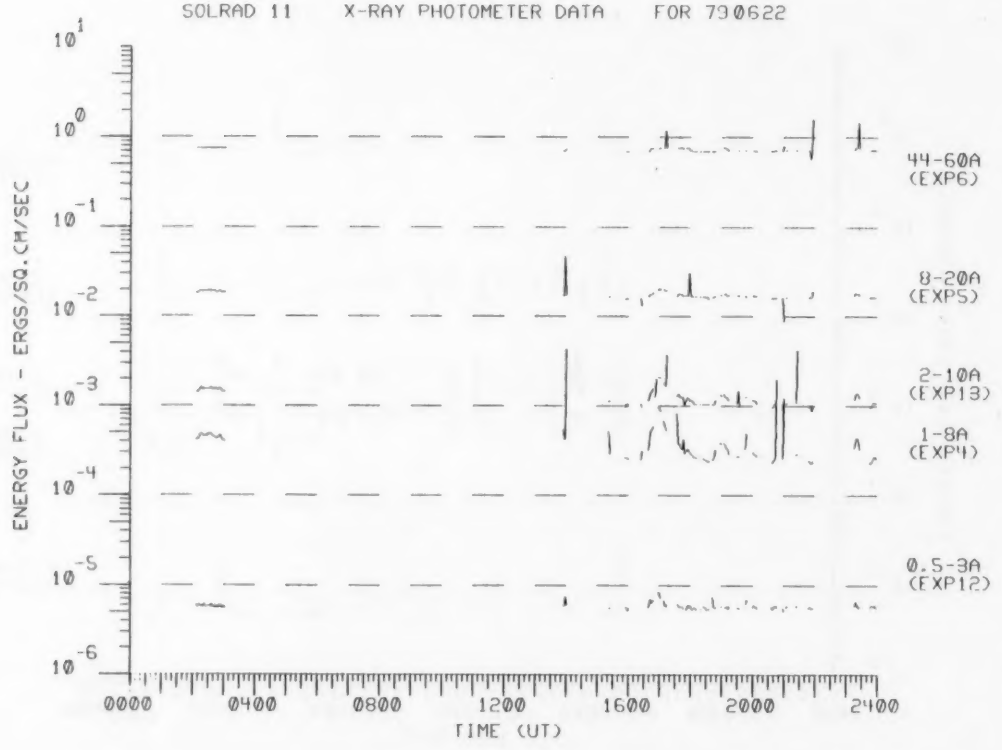

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790617
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790618
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

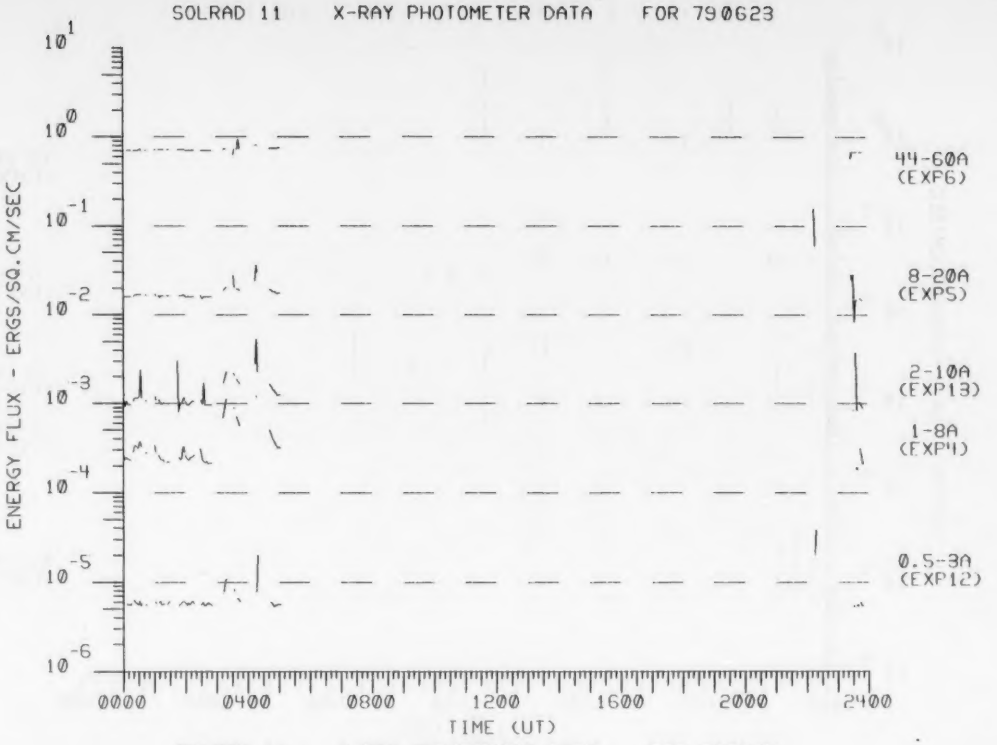

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790619
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790620
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

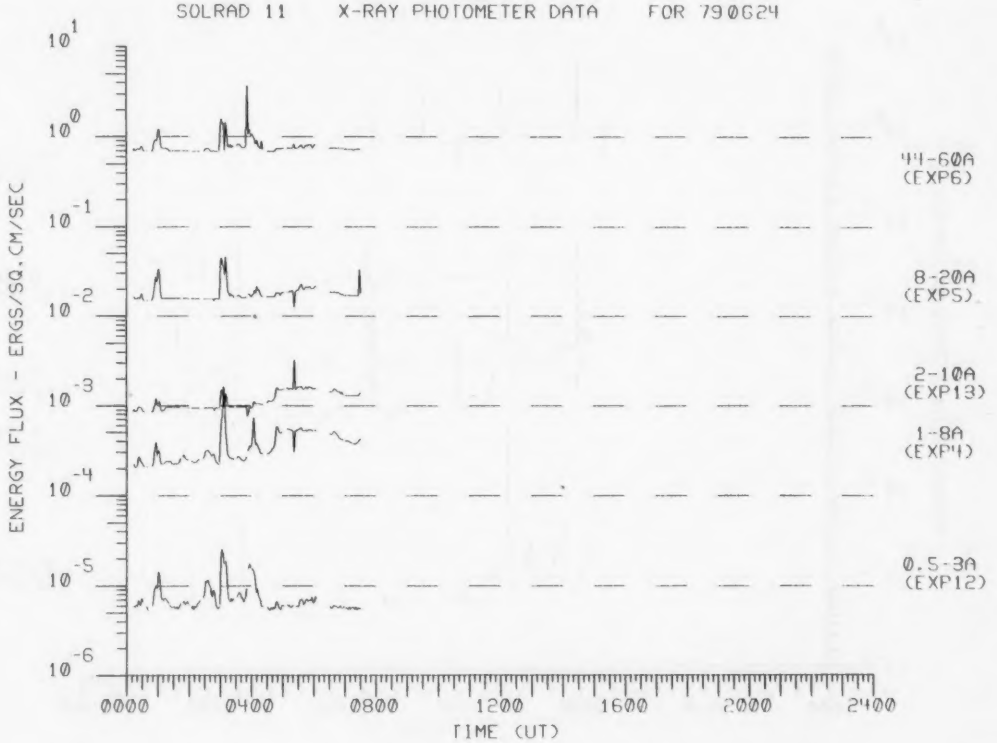

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790621
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

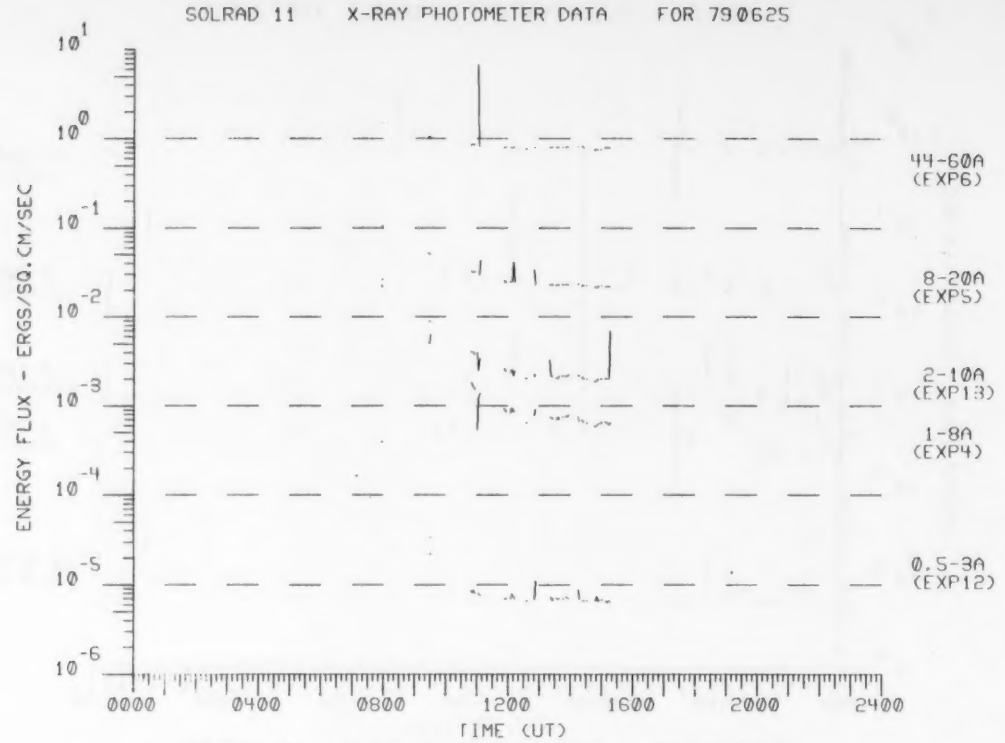

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790622
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

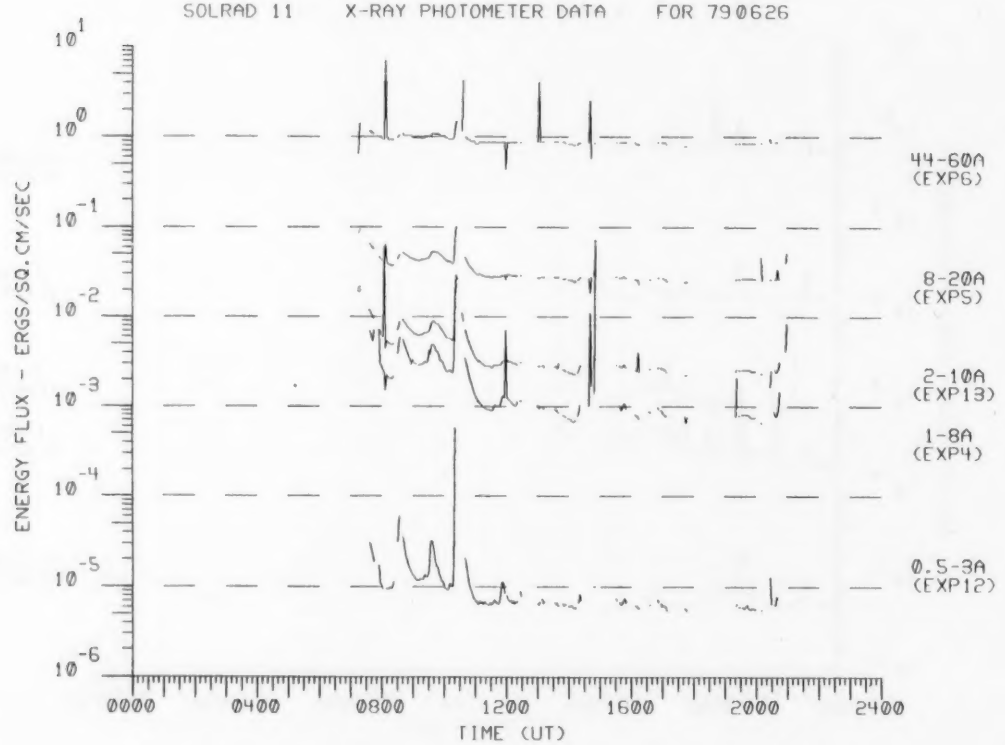
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790623

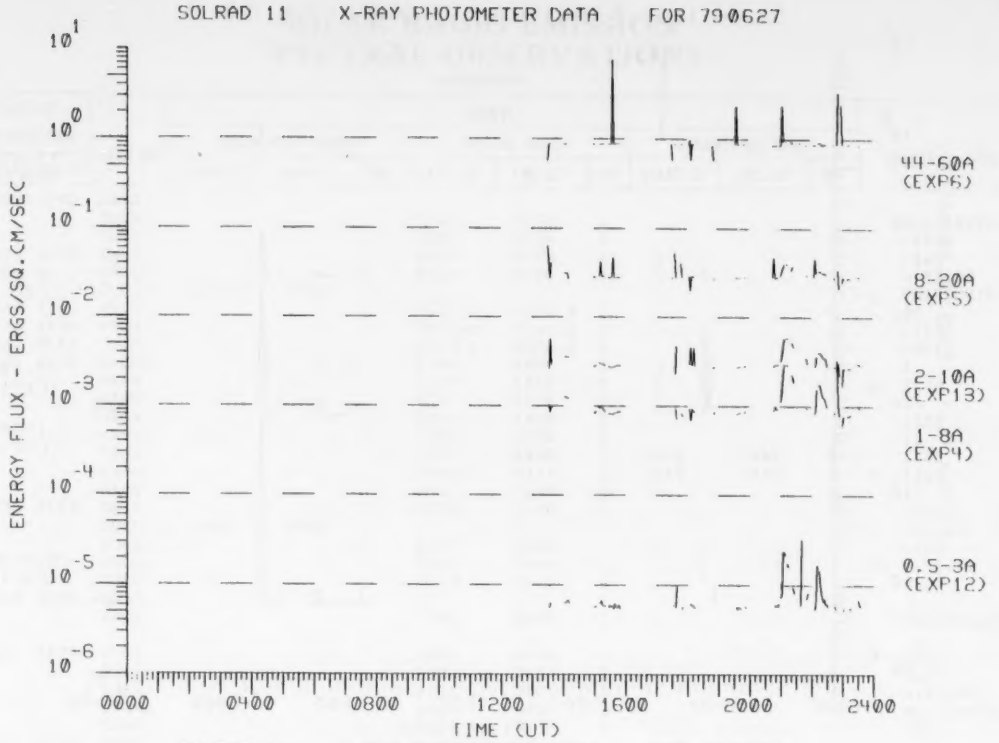


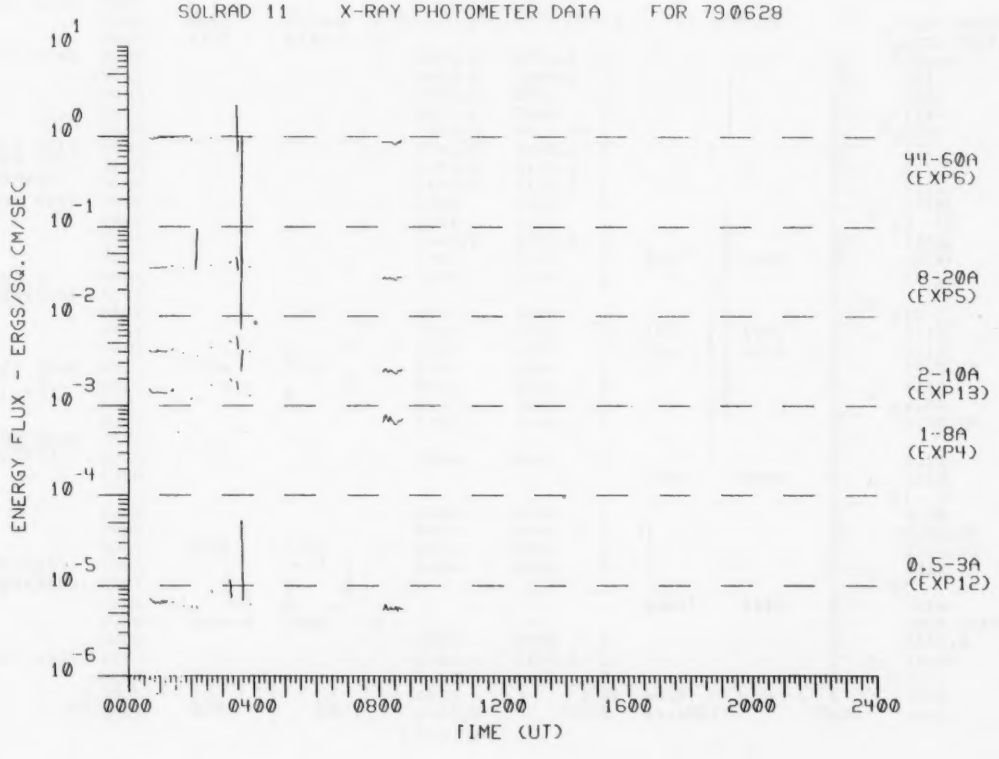
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790624

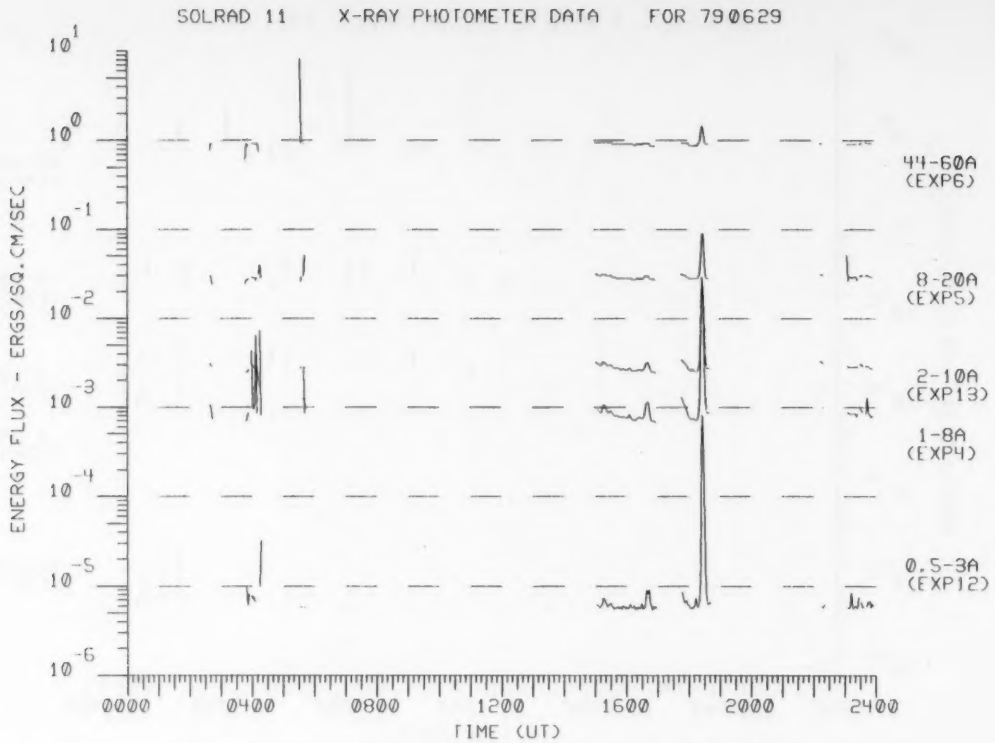


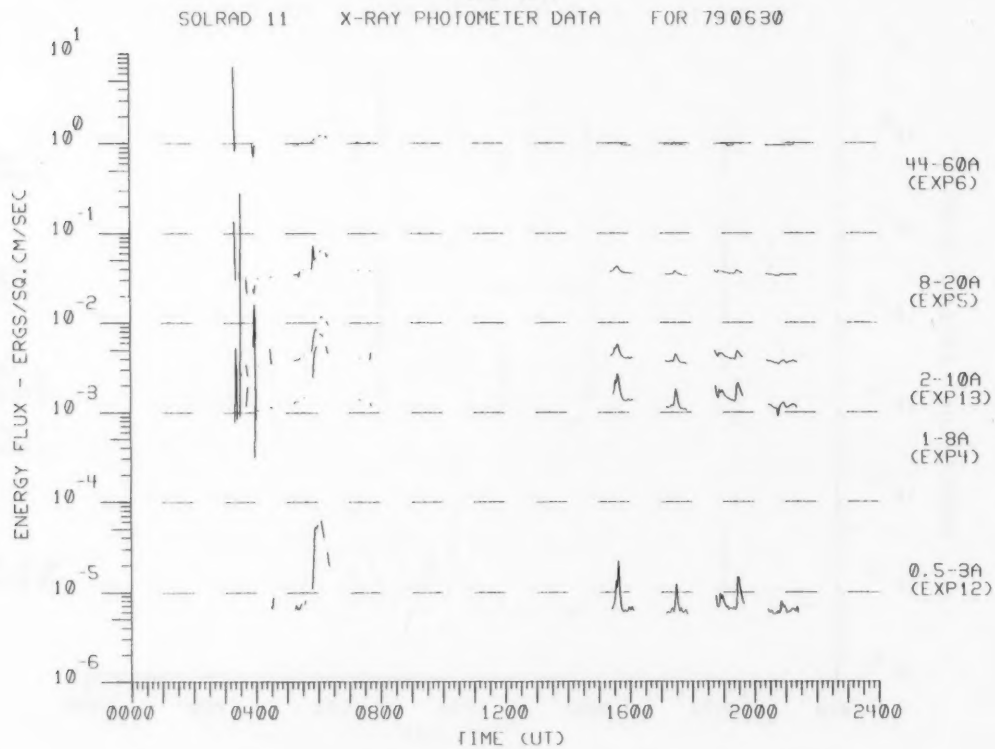

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790625
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790626
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790627
ENERGY FLUX - ERGS/SQ.CM/SEC
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790628
ENERGY FLUX - ERGS/SQ.CM/SEC
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790629
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790630
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0950	MANI										
			CULG				0000	0706	1				N,SCINTILL
			CULG				0000	0706	1				IIIN
	0000	0730	CULG				0000	0706	1				IS,C
			CULG				0018	0706	1				N,RS,DP
			CULG	0159.5	0200	2							FAST DRIFT
	0409	1040	WEIS				0423.0	1830.0	2				IS
	1045	1830	WEIS				0432.0	1718.0	2				IIIN
	0913	2409	SGMR				0913.0	2028.0	1				CONT
	1230	2245	HARV				1336	1507	1				I
			HARV				1455	1816	2				IIIN
			HARV				1507	1800	2				IC
			HARV				1718	1826	2				IIIN
			HARV				1800	1910	3				IC
			HARV				1820	1845	2	1820	1845	2	IIIS
			HARV				1845	2100	2	1845	2110	2	IIIN
			HARV				1910	2245	2				IC
	2030	2400	CULG				2055	2400	2				IS,C
			CULG	2055	2400								IS,C,W
			CULG				2107	2400	1				IIIS
			CULG				2107	2400	1				N,RS,DP
			CULG				2123	2400	1				N,DP
	2130	2400	MANI										
			CULG				2327	2400	1				SCINTILLAT
02	0000	0730	CULG				0000	0706	1				IIIS
			CULG				0000	0706	1				N,DP
			CULG				0000	0706	1				N,RS,DP
			CULG				0000	0707	1				N,SCINTILL
			CULG				0000	0707	2				IS,C
	0000	1000	MANI										
			CULG	0049	0049.5	1							FAST DRIFT
			CULG	0322	0322.5	1							FAST DRIFT
	0408	1545	WEIS				0409.0	1544.0	1				IS,DC
			WEIS				0409.0	1545.0	1				IIIS
			CULG				0558.5	0559	2				IIIG
			CULG				0607.5	0608	2				IIIG
			SGMR				1035.0	2410.00	1				CONT
	0913	2410	SGMR				1058.5	1058.6	1				III
			SGMR				1138.8	1139.2	2				V
			SGMR				1152.8	1202.1	2				IIIG
	1230	2255	HARV				1318	1446	1				IIIN
			HARV				1400	1520	1				I
			SGMR				1446.0	1447.3	2				IIIG
			HARV				1447	1645	2	1447	1645	2	IIIN
			HARV				1520	1620	2				IC
	1554	1831	WEIS										
			HARV				1620	2240	3				IC
			HARV				1645	1940	3	1645	1940	3	IIIS
			HARV				1940	2250	2	1940	2250	2	IIIN
	2030	2400	CULG	2054	2400	1	2056	2400	2				IS,C,DC
			CULG				2102	2244	2				IIIS
			CULG				2102	2400	1				N,DP
			CULG				2102	2400	1				N,RS,DP
	2129	2400	MANI										
			CULG				2244	2400	1				IIIS
			CULG							2358	2400	1	IIIN
03			CULG				0000	0706	1				N,DP
			CULG				0000	0706	1				N,RS,DP
			CULG	0000	0705	1	0000	0706	1				IS,C,DC
	0000	0730	CULG				0000	0351	1				IIIS
	0000	0959	MANI										
			CULG							0003	0004	1	IIIN
			CULG	0346.5	0347	1							FAST DRIFT
			CULG				0351	0705	1				IIIS,W
	0407	1834	WEIS				0409.0	1747.0	2				IN,DC
			WEIS				0417.9	1820	2				IIIN
			CULG				0418		2	0418		1	IIIB
			CULG				0446.5		2	0446.5		1	IIIB

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
03			CULG				0620	0705	1				SCINTILLAT
	0913	2410	SGMR				1200.0	1200.3	1				V
			SGMR				1223.4	1229.0	1				IIIG
			SGMR				1246.2	1246.5	1				V
			SGMR				1259.8	1300.2	1				IIIG
			WEIS				1413.3	1416.4	3				IIIGG
			SGMR				1413.5	1416.5	3				V
	1230	1450	HARV				1414	1416	3	1414	1416	3	IIIGG,V
			WEIS				1432.9	1436.8	2				IIIG/V,U
			SGMR				1433.7	1437.5	3				V
			HARV	1434		2	1434	1436	3	1434	1436	3	IIIGG
			SGMR				1459.6	1500.2	2				V
			SGMR				1512.8	1514.0	2				V
			SGMR				1520.8	1521.1	2				V
			SGMR				1640.9	1641.4	1				V
	1610	2245	HARV				1641		1	1641		1	IIIG
			HARV	1759	1800	2							IIIG
			HARV				1815	1820	3				IIIG
			HARV				1905	1906	1				IW
			HARV				1918	2026	2	1918	2018	1	IIIN
			HARV	2030		3	2029	2030	3				IIIGG
			SGMR				2052.6	2053.0	2				V
			HARV				2052	2053	3	2052	2053	3	IIIB,V
	2030	2400	CULG	2056	2322	1							IS
			CULG				2125	2400					IN,W
	2130	2400	MANI										
			CULG				2131	2400					IIIN,W
			CULG				2136	2143					N,RS,DP,W
			CULG				2142	2315					N,DP,W
			CULG	2248.5	2249	2	2248.5	2249.5	3				IIIG
			SGMR				2249.0	2249.3	2				V
			CULG	2322	2400								IN,W
04	0000	0730	CULG	0000	0303		0000	0436					IN,W
	0000	0954	MANI										
			CULG	0009.5	0010	1	0009.5	0011.5	2	0009.5	0010	1	IIIG
			CULG				0025	0655					IIIN,W
			CULG				0049.5		1				IIIB
			CULG				0220	0222.5	2	0220.5	0221	1	IIIG,V
			CULG	0303	0420	1							IS
			CULG				0320.5		1				IIIB
			CULG				0350	0350.5	2	0350	0350.5	2	IIIB
			CULG				0352.5		1				IIIB
			CULG				0353.5		2	0353.5		1	IIIB
			CULG				0354.5		1	0354.5		1	IIIB
			CULG							0356		1	IIIB
			CULG				0357.5	0358.5	1				IIIG
			CULG							0359	0430	2	S.W.F.
			CULG	0400.5	0401.5	2							FAST DRIFT
			CULG				0402.5	0403.5	2	0403	0403.5	2	IIIG
			CULG	0402	0402.5	2							FAST DRIFT
			CULG				0403.5	0404.5	1				UNCLF
			CULG	0406.5	0407	1							FAST DRIFT
	0408	0554	WEIS										
			CULG				0411	0411.5	2	0411	0411.5	1	IIIG
			CULG				0413	0414	1				IIIG
			CULG	0420	0657								IN,W
	0604	1834	WEIS										
			WEIS				0643.0	1724.0	2				IIIN
	1230	2245	HARV				1406	1723	1				IIIN
	0912	2411	SGMR				1408.4	1409.1	2				V
			HARV				1409		2				IIIB
			SGMR				1418.9	1617.8	2				IIIG
			SGMR				1506.8	1507.1	3				V
			HARV				1507		3	1507		3	IIIB
			SGMR				1723.0	1723.5	2				V
			HARV				1916	2152	1				IN,W
			SGMR				1943.1	1952.1	1				IIIS
			HARV	1951	1952	2	1951	1952	2				IIIG
			SGMR				2034.8	2035.7	2				V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
04	2030	2400	CULG	2056	2224	1							IS
			CULG				2113	2400					IIIN,W
			CULG				2121	2121.5	1				IIIG
	2127	2400	MANI										
			CULG				2224.5	2225	2				IIIG
			CULG	2224	2325								IS,W
			CULG				2226		1				IIIB
			CULG				2325	2327	2	2325.5	2326	1	IIIG
			CULG	2325	2400	1							IS
			CULG				2352.5	2354	2				IIIG
05	0000	0728	CULG	0000	0037	1							IS
			CULG				0009	0500					IIIN,W
			CULG	0037	0104	2							IS
			CULG				0046.5	0047	3	0046.5	0047	2	IIIB
			CULG				0048		1				IIIB
			CULG				0058	0120	1				IS
			CULG	0102	0102.5	2	0102		2				IIIG
			CULG	0104	0207								IS,W
			CULG				0111	0111.5	1	0111	0111.5	1	IIIG
			CULG				0113	0113.5	2	0113	0113.5	1	IIIG
			CULG				0120	0310	1				IS,C
			CULG				0135.5	0137	2	0135.5	0137	1	IIIG
			CULG				0140	0236	1				SCINTILLAT
			CULG	0207	0317	1							IS
			CULG	0317	0504		0310	0503					IN,W
			CULG				0328.5	0329	1				IIIG
			CULG				0330		2				IIIB
			CULG	0402	0403.5	3	0402	0403.5	3	0402	0403.5	3	IIIG
			CULG				0407.5	0410	2	0409.5	0410	1	IIIG
			WEIS				0409.0	0828.0	2				IIIN
			CULG				0412.5	0414.5	1				IIIG
			CULG				0419		2				IIIB
	0000	0958	MANI							0420.3	0402.5	1	III
	0407	1123	WEIS				0429.0	1122.0	2				IN,DC
			CULG				0500	0520	1				IIIS
			CULG	0503	0652	1	0504	0653	1				IS
			CULG				0509	0654	2			IV	
			WEIS				0510.0	0650.0	2				CONT
			CULG	0510	0605	2						IV,	P
			CULG							0511	0615	2	S.W.F.
			CULG				0514	0546	3			II	
			CULG				0529	0535	2				IIIGG
			CULG	0547	0547.5	1	0547	0547.5	2				IIIG
			CULG				0648	0649	2				IIIG
			CULG				0650.5		1				IIIB
	0911	2412	SGMR				1205.1	1205.9	2				V
			SGMR				1316.4	1317.0	1				IIIG
			SGMR				1323.9	1324.3	1				V
	1230	2245	HARV				1409	1620	1				IN,W
			HARV				1427	1958	1				IIIN
			SGMR				1434.6	1434.9	1				V
			SGMR				1445.6	1446.0	2				V
			SGMR				1457.6	1457.8	1				V
			SGMR				1537.2	1538.0	3				V
			HARV				1537	1551	3				IIIS
			SGMR				1538.0	1553.0	3				IIIG
			SGMR				1542.1	1543.8	3				V
			SGMR				1558.0	1603.9	1				IIIG
			SGMR				1624.4	1624.8	1				V
	1823	1834	WEIS										
			SGMR				1835.8	1836.0	1				V
			SGMR				1958.0	1958.2	1				III
			SGMR				2001.8	2002.1	3				V
			HARV				2001	2003	3				IIIGG
			SGMR				2003.0	2003.1	2				III
	2031	2400	CULG	2059	2115	1							IS
	2130	2400	MANI										
			CULG	2153	2308	1							IS
			CULG	2305	2306	1	2305	2306	2				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
05			CULG				2307		2				IIIB
			CULG	2308	2354								IN,W
			CULG				2320.5						IIIB,W
			CULG	2354	2400	1							IS
06	0000	0730	CULG	0000	0703	1							IS
	0000	0957	MANI										
			CULG				0016	0017					IIIG,W
			CULG				0027.5	0029					IIIG,W
			CULG				0028.5		1				IIIB
			CULG	0030.5	0033	2	0030.5	0032.5	1				IIIG
			CULG	0057	0059	1	0056	0059	1				IIIG
			CULG				0103						IIIB,W
			CULG				0104	0105					IIIG,W
			CULG				0105	0110	1				I
			CULG				0222	0222.5	1				IIIG
			CULG				0237	0238	1				IIIG
			CULG				0312.5						IIIB,W
			CULG	0315	0321	1	0315	0321.5	1				IIIGG
			CULG				0319	0320	2	0319	0320	1	IIIG
			CULG				0325	0351	1				IS
			CULG	0355	0356	1	0355.5	0356.5	2	0356	0356.5	2	IIIG
			CULG				0357	0400	2				I
			CULG	0357	0358.5	1	0357	0359	1				IIIG
			CULG	0401.5	0402.5	2	0401.5	0402.5	2	0402	0402.5	2	IIIG
			WEIS				0417.0	1744.0	2				IIIN
			CULG	0417	0417.5	1	0417	0417.5	2				IIIG
	0407	1835	WEIS				0425.0	0729.0	1				IN
			CULG				0523						IIIB,W
			CULG	0610	0625	2							IS
			CULG				0612	0642					IIIS,W
			CULG				0622.5	0657	1				IS
	0911	2412	SGMR				1553.9	1554.1	1				III
			SGMR				1641.9	1642.4	1				III
			SGMR				1743.7	1743.9	1				III
	1230	2245	HARV				1744		1				IIIB
	2030	2400	CULG	2059	2331	1							IS
			CULG				2101	2227	1				IIIS
			HARV				2107	2227	2				IIIN
			CULG	2133	2134	2	2133	2133.5	1				IIIG
	2134	2400	MANI										
			CULG				2220	2230	1				I
			CULG				2227	2400					IIIS,W
			CULG				2301.5	2302	2				IIIG
			CULG				2324.5	2327	1				I
07	0000	0730	CULG				0000	0024					IIIS,W
	0000	0956	MANI										
			CULG				0024	0129	1				IIIS
			CULG				0104	0210	1				IS
			CULG	0126.5	0127	1	0126.5	0127	1				IIIG
			CULG				0129	0219					IIIS,W
			CULG				0209.5	0210	2	0210		1	IIIG
			CULG	0307	0420	1							IS
			CULG				0313.5	0411					IIIN,W
			CULG				0320.5	0321	1				IIIG
			CULG	0420	0524								IN,W
	0726	1244	WEIS				0843.3	0843.7	2				IIIG
			WEIS				0853.3	0853.4	1				IIIG
	0911	2413	SGMR				1310.8	1312.5	2				IIIG
	1230	2245	HARV				1311	1312	3				IIIG
			SGMR				1332.8	1333.2	1				IIIG
			SGMR				1403.1	1454.0	2				IIIG
			HARV				1403		1				IIIG
			HARV				1412	2116	1				IIIN
			HARV				1447	1450	1				IIIG,W
			SGMR				1540.0	1540.5	1				IIIG
			HARV				1540		3				IIIG
			SGMR				1616.0	1616.3	2				V
			SGMR				1621.6	1621.8	1				III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
07			SGMR				1644.0	2207.5	2				IIIS
			HARV				1735		2				IIIG
			HARV				1745	1748	2				IIIG
			HARV				1852	1858	2				IIIGG
			HARV				2019	2024	2				IIIGG
	2031	2400	CULG	2059	2351	1							IS
			CULG				2103	2400					IIIN,W
			CULG				2105.5	2107	1				IIIG
			HARV				2106		2				IIIG
			CULG				2114	2400					IN,W
	2126	2400	MANI										
			CULG				2123.5	2129.5	1				IIIG
			CULG				2129		1				DP
			HARV				2129		1				IIIG
			CULG	2206.5	2207.5	1	2206.5	2208	3				IIIG,V
			HARV				2207	2208	3				IIIG,U,V
			CULG				2310	2310.5	1				IIIG
			SGMR				2313.0	2313.2	1				III
			CULG				2357	2357.5	1				IIIG
08			CULG				0000	0659					IIIN,W
	0000	0730	CULG	0000	0115								IS,W
	0000	0955	MANI							0029.1	0029.5	1	III
			CULG	0029	0029.5	1	0029	0029.5	3	0029	0029.5	2	IIIG
			CULG				0051	0215					IS,W
			CULG	0115	0614		0215	0643					IN,W
			CULG				0251	0251.5	3	0251	0251.5	2	IIIG
			CULG				0346.5	0347	1	0346.5	0347	1	IIIG
			CULG	0419.5	0421	2	0419.5	0421	3	0420	0420.5	1	IIIG,V
			CULG	0419.5	0432	2							I
			MANI							0420.3	0420.7	1	III
			CULG				0427	0427.5	2	0427	0427.5	1	IIIG
			CULG				0428.5	0429.5	1				IIIG
			CULG				0440.5		2				IIIB
			CULG	0537.5	0538	1	0537.5	0538	1				IIIG
			CULG				0639.5	0640	1				IIIG
			CULG				0658.5		1				IIIB
	0722	1836	WEIS				0737.6	0737.9	2				IIIG
			WEIS				0740.6	0740.7	2				IIIB
			WEIS				0819.1	0819.2	1				IIIG
			WEIS				0822.8	0822.9	1				IIIB
			WEIS				0854.9	0855.0	1				IIIB
			WEIS				0916.0	0928.2	3				IIIGG
	0911	2414	SGMR				0919.4	0924.1	2				IIIG
			SGMR				1021.1	1021.4	1				III
			WEIS				1037.4	1037.6	1				IIIG
			WEIS				1050.8	1051.4	2				IIIG
			WEIS				1104.0	1107.6	2				IIIG
			SGMR				1104.0	1105.8	2				IIIG
			SGMR				1201.9	1202.3	1				IIIG
			WEIS				1251.7	1252.1	1				IIIG
			WEIS				1340.4	1340.7	1				IIIB
			SGMR				1340.4	1340.7	1				III
			SGMR				1459.7	1503.4	2				IIIG
			WEIS				1502.6	1503.3	2				IIIG
	1230	2245	HARV	1503		2	1503		1				IIIG
			WEIS				1510.8	1510.9	1				IIIB
			SGMR				1510.9	2321.0	2				IIIS
			WEIS				1515.5	1517.7	2				IIIG
			WEIS				1531.5	1535.5	1				IIIG
			WEIS				1655.7	1657.7	2				IIIG
			HARV				1656	1657	2				IIIG
			WEIS				1749.6	1751.7	2				IIIG
			HARV				1749	1806	2				IIIGG
			WEIS				1753.3	1756.7	2				IIIG
			WEIS				1801.7	1801.8	2				IIIB
			WEIS				1803.4	1806.7	2				IIIG
			WEIS				1810.5	1812.0	1				IIIG
			HARV				1812	1814	1				IIIG
			WEIS				1813.9	1814.0	2				IIIB

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
08			WEIS				1821.6	1821.7	2				IIIG
			HARV				1821	1829	3				IIIGG
			WEIS				1825.2	1825.4	1				IIIG
			WEIS				1827.5	1829.7	2				IIIGG
			SGMR				1827.8	1828.0	3				V
	2031	2400	CULG	2101	2400								IS,W
			CULG				2111	2113	1				IIIGG
			CULG				2123	2400					IN,W
			CULG				2129.5	2134	1				IIIGG
			CULG				2129.5	2130	1				RS,DP
			SGMR				2130.0	2133.3	3				V
			HARV				2130	2134	3	2133		2	IIIGG
	2130	2400	MANI										
			CULG	2132.5	2133.5	1	2132.5	2134	3				IIIGG
			CULG				2135	2400					IIIN,W
			CULG				2148.5		2				IIIB
			HARV				2148	2216	1				IIIN
			CULG	2215.5	2216	1	2215.5	2216.5	2				IIIG,U
			CULG				2254	2254.5	1				IIIG
			CULG				2334.5	2336	3	2335	2336	2	IIIG
09			CULG				0000	0132					IIIN,W
	0000	0730	CULG	0000	0135		0000	0014					IN,W
	0000	1000	MANI										
			CULG				0036.5	0037.5	1	0036.5	0037.5	1	IIIG
			CULG				0132	0148	1				IIIS
			CULG	0135	0157	1	0133	0548	1				IS
			CULG				0136	0140.5	3	0137	0140.5	2	IIIGG
			CULG				0155	0601					IIIN,W
			CULG				0206		2	0206		2	IIIB
			CULG				0211		1				IIIB
			CULG				0241.5		1				IIIB
			CULG	0259.5	0303	1							I
			CULG				0259.5	0302	2	0259.5	0302	2	IIIGG
			CULG				0310.5	0311	2				IIIG
			CULG				0403.5		1				IIIB
			CULG				0404.5	0405	2	0405		1	IIIG
			CULG				0410.5		1				IIIB
	0407	1228	WEIS				0450.0	1729.0	2				IIIN
			CULG	0450	0450.5	1	0450	0450.5	1				IIIG
			CULG				0508		2				IIIB
			CULG				0509	0510	2				IIIG
			CULG				0533.5	0534.5	1				IIIG
			CULG	0547.5	0548	1	0547.5	0548	2				IIIG
			CULG				0548	0730					IS,W
			CULG				0601	0623					IIIS,W
			CULG				0602.5		1				IIIB
			CULG	0607	0730	1							IN
			CULG				0621	0623	3				IIIG
			CULG				0633.5		1				IIIB
			CULG				0642	0643	2				IIIG
			CULG				0642	0643	1				DP
			CULG				0645.5	0646.5	1				IIIG
			CULG				0723	0723.5	1				UNCLF
	1235	1837	WEIS				1008.4	1012.1	3				IIIGG,RS
	0911	2414	SGMR				1009.2	1011.6	3				IIIG
			SGMR				1029.4	1029.6	1				IIIG
			SGMR				1055.1	1104.0	2				IIIG
			SGMR				1126.5	1126.9	1				IIIG
			SGMR				1226.5	1227.3	3				V
			SGMR				1309.5	1309.8	2				V
	1230	2245	HARV				1309	1310	2				IIIG
			SGMR				1310.8	1310.5	2				V
			SGMR				1320.6	1336.5	2				IIIG
			SGMR				1411.0	1417.6	2				IIIG
			HARV				1413	1414	1				IIIG,W
			HARV				1459	1500	1				IIIG
			WEIS				1623.8	1629.0	3				IIIGG
			SGMR				1624.1	1626.7	3				V
			HARV	1625		2	1624	1627	3	1625	1626	3	IIIG,V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
09			HARV				1645	1646	1				IIIG
			SGMR				1646.8	1847.0	1				III
			HARV				1848		3				IIIG
			HARV				1923	2205	1				IIIN
	2030	2400	CULG	2102	2400								IN,W
			SGMR				2104.0	2104.3	2				III
			CULG				2104	2337					IIIN,W
			CULG				2122.5		1				IIIB
	2135	2400	MANI										
			CULG				2136		1				IIIB
			CULG				2137	2257					IN,W
			CULG				2205.5		1				IIIB
			CULG				2257	2400	2				IS,DC
			CULG				2337	2400	1				IIIN
10	0000	0730	CULG				0000	0039	1				IS,DC
			CULG	0003	0220								IS,W
			CULG				0000	0206					IIIS,W
			CULG				0016	0206	1				IIIN
			CULG				0034.5	0035	3	0034.5	0035	2	IIIB
			CULG				0039	0220	1				IS
			CULG	0127.5	0128	1	0127.5	0128	1				IIIG
			CULG				0140		2				IIIB
			CULG				0206	0350	2	0214	0427	1	IIIS
			CULG				0220	0450	2				IS,C,DC
			CULG	0220	0330								IS,C,W
	0000	0955	MANI							0250.0	0250.3	1	III
			MANI							0258.0	0258.4	1	III
			CULG	0330	0703								IS,W
			CULG				0350	0629					IIIN,W
	0404	1750	WEIS				0406.0	1641.0	2				IN
			CULG				0416.5	0417	1				IIIG
			CULG				0450	0657	1				IS,DC
			WEIS				0459.0	1736.0	2				IIIN
			CULG				0518	0518.5	1				IIIG
			CULG				0519.5	0520	1				IIIG
			CULG				0629	0655	1				IIIS
			WEIS				0637.0	0647.0	2				IIIGG
			CULG				0639.5	0645	2				IIIGG
			CULG	0642	0648	1							IIIN
			WEIS				0902.5	0927.0	3			II	HARM
	0911	2414	SGMR				1245.8	1249.3	2				IIIG
	1230	2245	HARV				1248	1249	1				IIIG
			SGMR				1316.1	1324.8	1				IIIG
			SGMR				1424.0	1739.5	1				CONT
			HARV				1705		1				IIIB
			HARV				1736	1738	1				IIIG
			HARV				2047		1				IIIB,W
	2032	2400	CULG	2102	2337		2104	2400					IS,W
			CULG				2107	2400					IIIN,W
	2130	2400	MANI										
11	0000	0955	MANI										
	0000	0731	CULG				0000	0125	1				IS
			CULG				0000	0134					IIIN,W
			CULG	0025	0137	1							IS
			CULG	0157.5	0158	1							I
			CULG				0214.5	0215.5	1				IIIG
			CULG				0223.5	0227.5	1				IIIG
			CULG	0232	0233	1							I
			CULG	0232	0233		0232.5	0233					IIIG,W
			CULG				0253.5						IIIB,W
			CULG				0319		2				IIIB
	0435	1838	WEIS				0508.0	1834.0	3				IIIS
			CULG				0508.5	0510					IIIG,W
			CULG	0512.5	0513	1	0512.5	0513.5	2				IIIG,U
			CULG				0535.5	0538					IIIG,W
			CULG	0550	0601	1							IS
			CULG				0629.5		2				IIIB
			CULG				0630.5	0631					IIIG,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
11			CULG				0634.5	0635.5	2				IIIG
			CULG				0650	0652					IIIG,W
	0910	2415	SGMR				1053.8	1105.0	2				IIIG
			SGMR				1100.0	1100.5	3				V
			WEIS				1150.0	1820.0	2				CONT,P
			WEIS				1150.0	1838.0	3				IS
			SGMR				1158.0	1815.5	1				CONT
			SGMR				1221.0	1221.5	3				V
			SGMR				1225.0	1227.5	3				V
	1230	2300	HARV				1230	1255	1				I
			SGMR				1242.0	1245.0	3			IV	
			HARV				1255	1340	2				IC
			HARV				1340	1520	1				IN
			HARV				1520	1740	2				IC
			SGMR				1531.2	1531.5	2				III
			HARV				1740	2300	3				IC
			SGMR				1747.8	1755.0	3				IIIG
			HARV				1748	1754	3				IIIGG
			SGMR				1815.5	2415.00	2				CONT
	2031	2400	CULG	2100	2400	2	2100	2400	2				IS,C,P
			CULG				2101	2400	2				IIIS
			CULG	2136.5	2137	2	2136.5	2137	3				IIIG
			HARV				2137		3				IIIB
	2137	2400	MANI										
			CULG				2230	2400					S.W.F.,W
			CULG				2310	2400	1				SCINTILLAT
12			CULG	0000	0350	1	0000	0445	2				IS,C,DC
	0000	0730	CULG				0000	0053	2				IIIS
			CULG							0000	0400		S.W.F.,W
	0000	0955	MANI										
			CULG				0053	0255	1				IIIS
			CULG				0245	0249.5	2	0245.5	0249.5	2	IIIGG
			CULG				0255	0609					IIIS,W
			CULG	0350	0526								IN,W
	0405	0947	WEIS				0406.0	1838.0	3				IN,DC
	0951	1838	WEIS				0424.0	1706.0	2				IIIN
			CULG				0430	0440	1				SCINTILLAT
			CULG				0445	0552	2				IS,DC
			CULG	0526	0613								IS,W
			WEIS				0550.0	1010.0	2				CONT,P
			CULG				0552	0705	2				IS,C,DC
			CULG				0609	0710	1				IIIS
			CULG				0610	0700	1				SCINTILLAT
			CULG	0613	0705	1							IS,C
			CULG				0623.5	0624	2				IIIG
	0910	2416	SGMR				1031.4	1033.0	1				IIIG
			SGMR				1134.5	2212.0	2				CONT
	1230	2245	HARV				1340	1458	1				I
			HARV				1458	1700	2				IC
			SGMR				1652.8	1655.2	3				IIIG
			HARV				1653	1654	3				IIIGG
			HARV				1700	2245	3				IC
	2031	2400	CULG				2058	2400	2				IS,C,DC
			CULG				2101	2400	1				IIIS
			CULG	2101	2400	1							IS,C,P
			CULG				2137	2200	2				IIIN
	2137	2400	MANI										
13	0000	0958	MANI										
	0000	0732	CULG				0000	0248	2				IS,C,DC
			CULG				0000	0545					IIIS,W
			CULG	0000	0408								IS,W
			CULG				0034	0545	1				IIIN
			CULG				0152	0152.5	1	0152	0152.5	1	IIIG
			CULG				0159		2	0159		1	IIIB
			CULG				0244		1	0244		1	IIIB
			CULG				0248	0545	1				IS,DC
			CULG				0400	0428	2			II	
	0405	0823	WEIS				0408.0	1838.0	2				IS,DC

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
13			CULG	0408	0655								IN,W
	1100	1334	WEIS				0414.0	1828.0	2				IIIS
			CULG				0526	0528	2				IIIG,V
			CULG				0545	0700	2				IS,C,DC
			CULG				0545	0655	1				IIIS
			CULG				0624	0655	1				SCINTILLAT
	0910	2417	SGMR				1054.8	2328.0	3				CONT
	1457	1838	WEIS				1104.0	1800.0	2				CONT
	1230	2245	HARV				1230	2245	3				IC
	2032	2400	CULG	2101	2215	1	2101	2400	2				IS,C,DC
			CULG				2104	2400	2				IIIS
	2136	2400	MANI										
			CULG	2215	2322								IS,W
14			CULG				0000	0141	2				IIIS
	0000	0732	CULG				0000	0131	2				IS,C,DC
	0000	1000	MANI										
			CULG							0007	0432		IIIN,W
			CULG				0021.5	0700	1				N,RS,DP
			CULG				0131	0702	1				IS,C,DC
			CULG				0141	0700	1				IIIS
			WEIS				0428.0	1648.0	2				IN,DC
	0405	1833	WEIS				0445.0	1832.0	2				IIIN
			CULG				0445	0641	2				IIIN
			CULG				0545	0702	1				SCINTILLAT
	0910	2417	SGMR				1124.4	2417.00	2				CONT
			SGMR				1320.6	1322.6	2				V
			SGMR				1322.7	1325.1	2				V
	1230	2250	HARV				1322	2220	1				IIIN
			HARV				1803	1805	2				IIIG
			HARV				1845	2220	1				IN
	2032	2400	CULG	2102	2126	1	2102	2400	1				IS,C
			CULG				2110	2400	1				IIIS
			CULG				2110	2400	2				IIIN
			CULG				2119	2400	1				N,RS,DP
			CULG				2126.5	2127	2				UNCLF
	2137	2400	MANI										
			CULG	2326	2326.5	2	2326	2326.5	3	2326	2326.5	1	IIIG,V
			CULG				2332	2400	1				SCINTILLAT
15	0000	0710	CULG				0000	0024	1				IIIS
			CULG				0000	0631	1				N,RS,DP
			CULG				0000	0530	1				N,SCINTILL
			CULG				0000	0659	1				IS,C,DC
	0000	1000	MANI										
			CULG				0024	0631					IIIS,W
			CULG				0024	0710	1				IIIN
			CULG				0112	0112.5	2				IIIG,U
	0519	1839	WEIS				0410.0	1821.0	2				IN,DC
	0405	0504	WEIS				0418.0	1814.0	1				IIIN
			CULG				0605.5		2				IIIB
	0910	2417	SGMR										
			WEIS				1234.1	1234.6	2				IIIG
	1215	2245	HARV				1234		2				IIIG
			HARV				1927	1928	1				IIIG
			HARV				2036	2039	1				IIIG,W
	2032	2400	CULG				2102	2308					IS,W
			CULG				2109	2110.5	1				I
			CULG				2112	2400					IIIN,W
			CULG				2113	2242	1				N,RS,DP
	2130	2400	MANI										
			CULG				2242	2243	1				IIIG
			HARV				2242	2243	1				IIIG
			CULG				2247.5	2248.5	1				IIIG
			CULG				2247.5	2248	3	2247.5	2248	1	IIIG
			CULG				2316.5		1				IIIG
16	0000	0732	CULG				0000	0632					IIIN,W
	0000	1000	MANI										
			CULG				0029.5	0030	1				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
16			CULG	0031.5	0032.5	1	0030.5	0032.5	2	0031.5	0032.5	2	IIIGG
			CULG				0106	0138					IS,W
			CULG				0133		1				IIIB
			CULG				0138	0244	1				IS
			CULG				0244	0534					IN,W
	0405	1020	WEIS				0420.0	1808.0	2				IIIN
			CULG				0550	0552	1				IIIGG
			CULG				0554	0554.5	1				IIIG
			CULG				0613	0613.5	2				IIIG
			CULG				0615.5	0616	2				IIIG
			CULG				0619	0620	2				IIIG
			CULG				0632	0656	1				IIIS
	0910	2418	SGMR				1100.8	1100.6	2				IIIG
	1107	1840	WEIS										
	1215	2245	HARV				1452		1				IIIB,W
			HARV				1544		1				IIIG,W
			SGMR				1610.1	1610.5	2				V
			HARV				1610		2				IIIG
			SGMR				1647.8	1648.1	2				V
			HARV				1648	1653	2				IIIG
			SGMR				1800.0	1806.8	2				IIIS
			HARV				1800	1801	1				IIIG
			HARV				1807		2				IIIG
			HARV				1842		1				IIIB,W
	2032	2400	CULG				2129	2131.5	2				IIIGG
			SGMR				2130.1	2131.1	2				V
			HARV				2130	2134	3	2130	2143	3	IIIGG
	2130	2400	MANI										
			CULG				2132.5		1				IIIB
			CULG	2133.5	2134	1	2133.5	2134	2	2133	2134	2	IIIG
			SGMR				2133.8	2134.0	1				III
			CULG				2254	2400					IS,W
17	0000	0733	CULG				0000	0120					IS,W
	0000	1000	MANI										
			CULG				0009	0014					IIIN,W
			CULG				0215.5		1				UNCLF
			CULG				0312.5	0313					IIIG,W
			CULG				0336	0337	1	0336.5		1	IIIG
			CULG				0343.5		1				IIIG
	0405	1610	WEIS				0521.0	1759.0	2				IIIN
			CULG				0521	0521.5	2				IIIB,V
			CULG				0614		1				IIIB
			CULG	0621.5		1							IIIB
			CULG				0647.5	0649.5					IIIG,W
	1640	1840	WEIS				0959.7	1025.6	3				IIIGG
	0910	2419	SGMR				1001.5	1005.5	2				V
			SGMR				1110.3	1147.0	2				IIIS
			WEIS				1215.1	1222.6	3				IIIGG
			SGMR				1215.8	1221.2	3				V
	1215	2245	HARV	1220		1	1217	1222	2				IIIGG
			SGMR				1245.4	1246.1	2				V
			SGMR				1304.6	1305.4	3				V
			HARV				1305		2				IIG,V
			SGMR				1429.4	1439.4	2				IIIG
			HARV				1430	2217	1				IIIN
			SGMR				1634.3	1635.0	2				V
			HARV				1634	1647	3	1637	1643	3	IIG,N
			SGMR				1636.6	1637.1	3				V
			SGMR				1641.7	1644.1	3				V
			SGMR				1645.2	1647.2	2				V
			SGMR				1713.0	1716.0	2				V
			HARV				1713	1715	3	1713	1715	3	IIIG,V
			SGMR				1724.8	1725.0	1				III
			HARV	1749		2	1749		2				IIIG
			HARV				1916		2				IIIG
			SGMR				1935.7	1735.9	1				III
			HARV				1936		3				IIIB
			HARV				1953	1954	2				IIIG
	2033	2400	CULG				2107.5	2109.5					IIIG,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
17			CULG				2108		1				IIIB
	2133	2400	MANI										
			CULG				2135.5	2136.5					IIIG,W
			CULG				2147.5						IIIB,W
			SGMR				2154.2	2154.4	1				III
			CULG				2154	2155.5	2				IIIG,V
			HARV				2154		2				IIIG
			CULG				2215.5	2217					IIIGG,W
			CULG				2221.5						IIIB,W
			CULG				2228.5	2229					UNCLF,W
			CULG	2233.5	2234	1							I
			CULG				2308	2340					IS,W
			CULG				2322.5	2323.5					IIIG,W
			CULG				2347.5						IIIB,W
18	0000	1000	MANI										
	0000	0733	CULG				0049.5		1				IIIB
			CULG				0050	0208					IIIN,W
			CULG				0113	0114	2				IIIG
			CULG				0139.5	0142	1				IIIG
			CULG				0159	0159.5	2				IIIG
			CULG	0203	0203.5	1	0203	0203.5	1				IIIG
			CULG	0208.5		1							IIIB
			CULG				0231.5		1				IIIB
			CULG				0248.5		1				IIIB
	0405	1841	WEIS				0410.0	1804.0	2				IIIN
			CULG				0410.5	0411					IIIG,W
			WEIS				0622.4	0625.6	2				IIIGG,RS
			CULG	0623.5	0624.5	1	0622.5	0626	3				IIIG,V
			CULG				0625.5	0637.5	3				IIH
			WEIS				0626.3	0837.0	3				II HARM
			CULG				0627.5	0628	1				IIIG
			CULG				0633	0635	2				IIIG
			CULG				0648.5						IIIB,W
	0910	2419	SGMR				1200.9	1201.1	1				V
			SGMR				1216.5	1216.8	1				III
			SGMR				1514.0	1514.2	1				III
			WEIS				1810.9	1813.4	2				IIIGG,U
			SGMR				1811.0	1812.4	2				V
	1215	2245	HARV				1811	1813	3				IIIGG,V
			WEIS				1818.1	1826.3	2				II
			HARV				1818	1829	2				II
			SGMR				1912.8	1913.0	2				III
			HARV				1913	1919	2				IIIGG
			SGMR				2013.7	2013.8	2				III
			HARV				2013	2015	2				IIIG
			HARV				2038	2039	3				IIIG
			HARV				2100	2107	3				IIIGG
	2033	2400	CULG				2101	2256					IIIN,W
			CULG	2104	2112								IS,W
			SGMR				2105.9	2106.2	3				V
			CULG				2106	2106.5	3				IIIB
			CULG				2107		1				IIIG
			CULG				2116	2400					IS,W
	2131	2400	MANI										
			SGMR				2159.4	2159.5	1				V
			CULG	2159.5	2200	1	2159.5	2200	1				IIIG
			CULG				2256	2315					IIIS,W
			CULG				2301		1				IIIB
			CULG				2305.5	2306.5	2				IIIG,V
			CULG	2358	2359	1	2358	2400	3	2359	2400	1	IIIGG
19	0000	0733	CULG				0000	0002					IS,W
	0000	0955	MANI										
			CULG				0002	0002.5					IIIG,W
			CULG				0003	0003.5					IIIG,W
			CULG	0011.5	0012								I,W
			CULG				0015.5						IIIB,W
			CULG				0102.5	0103	1				UNCLF
			CULG				0102	0103	1				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
19			CULG				0154.5						IIIB,W
			CULG				0249						IIIB,W
			CULG				0307.5	0310.5					IIIG,W
			CULG				0403.5		1				IIIB
	0405	0713	WEIS				0554.0	1832.0	2				IIIN
			CULG				0554.5	0555.5	1				IIIG
			CULG				0643.5	0644	1				IIIG
			CULG				0646	0646.5	1				IIIG,W
			CULG				0649						IIIB,W
			CULG				0704	0704.5					IIIG,W
	0910	2419	SGMR				1033.4	1036.1	2				IIIG
	0718	1841	WEIS				1033.5	1036.1	2				IIIGG
			SGMR				1237.7	1238.1	2				V
	1215	2245	HARV				1238		1				IIIB
			SGMR				1307.5	1307.9	1				V
			SGMR				1311.7	1312.4	1				V
			HARV				1312		2				U
			SGMR				1525.8	1526.9	1				V
			SGMR				1827.0	1827.3	2				III
			HARV				1827	1831	2				IIIG
			SGMR				1830.0	1831.4	3				V
			HARV				1935		1				IIIB,W
	2130	2400	MANI										
	2033	2400	CULG				2142	2400					IIIN,W
			CULG				2150.5	2151	1				IIIG
			CULG	2239.5	2240.5	1	2239.5	2242.5	2				IIIGG,U
			SGMR				2239.7	2239.9	1				III
			HARV				2240		2				IIIG
			CULG				2355	2355.5	1				IIIG
20	0000	0959	MANI										
	0000	0727	CULG				0013	0643					IIIN,W
			CULG				0057		1				IIIB
			CULG				0245	0245.5	1				IIIG
			CULG				0255	0256					IIIG,W
			CULG				0314	0314.5	1	0314	0314.5	1	IIIG
	1217	1841	WEIS				0420.3	0421.0	2				IIIG
			CULG				0420	0421	3	0420.5	0421	2	IIIG,V
	0405	1213	WEIS				0422.0	1749.0	2				IIIN
			CULG				0502		1				IIIB
			WEIS				0516.3	0516.5	2				IIIG
			CULG				0516	0516.5	2				IIIB
			CULG				0558.5	0559.5	1				IIIG
			CULG				0614	0615	1				IIIG
			CULG				0617.5	0619	2				IIIG
	0911	2418	SGMR				1259.5	1258.8	1				V
			WEIS				1437.6	1440.6	2				IIIG
			SGMR				1438.4	1441.6	3				V
	1215	2245	HARV				1439	1440	1				IIIG
	2131	2400	MANI										
	2035	2400	CULG				2250.5	2253	3	2252	2252.5	1	IIIG,V
			SGMR				2252.0	2252.3	2				V
			CULG				2302.5	2303	1				IIIG
			CULG				2316	2316.5					IIIG,W
			CULG				2322	2324.5	2				IIIG
			CULG				2323.5	2324	1				UNCLF
21	0000	0955	MANI										
	0000	0734	CULG				0004.5		1	0004.5		1	IIIB
			CULG				0139	0142.5	2	0140	0142.5	2	IIIG,V
			CULG				0206.5	0207	1				UNCLF
			CULG				0322	0648					IIIN,W
	0405	1710	WEIS										
			WEIS				0412.0	1625.0	2				IIIN
			CULG				0541.5		1				IIIB
	0911	2419	SGMR				1208.8	1209.7	1				V
	1215	2245	HARV										
			SGMR				1246.9	1305.1	1				IIIG
			SGMR				1408.0	1442.1	1				IIIS
			SGMR				1511.6	1512.0	2				V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
21	1718	1842	WEIS										
	2034	2400	CULG										
	2130	2400	MANI										
22	0000	0955	MANI										
	0000	0733	CULG	0032	0100								IN,W
			CULG				0116	0116.5	1				IIIG
			CULG				0128.5						IIIB,W
			CULG				0231	0231.5	2	0231	0231.5	1	IIIG
			CULG				0249.5	0252	3	0250	0251.5	2	IIIG,V
	0405	0721	WEIS				0448.0	0546.0	2				IIIN
			CULG				0448.5	0454	2	0451.5	0452	1	IIIGG,U
			CULG				0449	0451	1				CONT
			CULG				0452.5	0453	2			II	POSS
			WEIS				0453.3	0453.7	2				U
			CULG				0456	0625					IIIN,W
			CULG				0501	0638	1				IS,C
	0941	1842	WEIS										
	1215	2245	HARV										
	0911	2419	SGMR				1937.9	1946.0	2				IIIG
	2034	2400	CULG										
	2134	2400	MANI										
23	0000	0244	MANI										
	0000	0734	CULG				0207.5						IIIB,W
	0250	0955	MANI										
			CULG				0254	0254.5					UNCLF,W
			CULG				0325	0328	1				IIIGG
	0406	0654	WEIS				0533.0	1745.0	1				III
			CULG				0534	0535					IIIG,W
	0735	1842	WEIS										
	0911	2419	SGMR				1714.0	1714.3	1				III
	1215	2245	HARV				1714		1				IIIG,W
			SGMR				1735.5	1741.2	1				IIIG
	2034	2400	CULG				2131	2131.5	1				IIIG
			CULG				2132	2243					IN,W
	2132	2400	MANI										
24	0000	0955	MANI										
	0000	0735	CULG				0039.5						IIIB,W
			CULG				0100.5	0101	3	0100.5	0101	2	IIIG
			CULG				0214	0255	1				IS
			CULG				0240	0242.5	2	0240.5	0242	1	IIIG,V
			CULG				0255	0411	1				IS
			CULG				0255	0317					IIIS,W
			CULG				0301.5		1				IIIB
			CULG				0306.5		2				IIIB
			CULG				0316.5		1				IIIB
	0406	1220	WEIS				0435.0	1824.0	2				III
			CULG				0436	0519					IIIN,W
	1224	1843	WEIS										
	0911	2419	SGMR				1251.6	1252.3	2				V
			SGMR				1314.0	1314.5	2				III
			SGMR				1603.2	1610.1	1				IIIG
	1215	2245	HARV				1607	1610	2				IIIGG
			SGMR				1808.8	1823.4	2				IIIG
			HARV				1809	1823	2				IIIGG
	2034	2400	CULG				2116	2212					IS,W
	2130	2400	MANI										
25	0000	1004	MANI										
	0000	0716	CULG				0049.5						IIIB,W
			CULG				0133	0643					IIIN,W
			CULG				0231	0231.5	2	0231	0231.5	1	IIIG
			CULG				0246	0249					IIIGG,W
			CULG				0420						I,W
	0406	1725	WEIS				0442.0	1443.0	1				IN
			CULG				0526.5	0528	2				UNCLF
			WEIS				0526.7	0530.6	2				IIIG
			CULG				0528.5	0532	3				IIIG,V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
25			CULG				0532.5	0606	3				IIH
			WEIS				0532.8	0557.5	3				II HARM
			WEIS				0553.4	0553.7	1				IIIG
			CULG				0553.5	0554	1				IIIG
	0726	0734	CULG										
			WEIS				1052.3	1052.4	1				IIIG
			WEIS				1056.6	1056.7	2				IIIG
			WEIS				1127.9	1128.5	2				IIIG
	0912	2420	SGMR				1127.9	1128.2	2				V
			WEIS				1342.5	1356.2	1				IIIG
			WEIS				1352.2	1352.4	1				IIIB
			WEIS				1407.0	1410.2	2				IIIG
			SGMR				1408.4	1428.2	1				IIIG
	1215	2245	HARV				1408	1410	2				IIIG
			WEIS				1417.6	1417.8	1				IIIG
			WEIS				1425.3	1432.3	2				IIIG
			HARV				1425	1432	1				IIIG
	1733	1843	WEIS										
			HARV				2004		1				IW
			SGMR				2037.2	2039.0	2				IIIG
			HARV				2037	2039	1				IIIG
	2035	2400	CULG				2138	2357					IIIN,W
	2139	2403	MANI										
			CULG				2225		1				IIIB
			CULG				2227.5		1				IIIB
26	0000	0950	MANI										
	0000	0735	CULG				0022	0650					IIIN,W
			CULG				0025	0029	2	0025	0028	1	IIIGG
			CULG				0037	0148					IN,W
			CULG				0053	0058.5					IIIGG,W
			CULG				0135.5	0136	1	0135.5	0136	1	IIIG
			CULG				0200.5	0203.5	2	0201.5	0203	1	IIIGG
			CULG	0250.5	0251								IIIG,W
			CULG				0403		1				IIIB
	0407	1843	WEIS				0424.0	1242.0	2				IIIN
			CULG				0424	0425	3				IIIG,V
			CULG				0428.5	0432.5	1	0428.5	0432.5	1	IIIG
			CULG				0540.5	0541	2				IIIG
			CULG				0621		1				IIIB
			CULG				0635	0637	2				IIIG
			WEIS				1023.6	1028.0	2				II HARM
	1215	2245	HARV				1858	1901	3				IIIGG
	0912	2419	SGMR				1900.0	1900.9	1				IIIG
			HARV				2200		2				IIIB
	2035	2400	CULG				2214	2400					IIIN,W
			MANI										
27	0000	0735	CULG				0004.5	0005	1	0004.5	0005	1	IIIG
			CULG				0129	0129.5		0129	0129.5		IIIG,W
			CULG				0151.5	0152					IIIG,W
			CULG				0205.5		1				IIIB
			CULG				0233						IIIN,W
	0407	0742	WEIS				0437.0	1823.0	1				IIIN
			CULG				0440.5		1				IIIB
			CULG				0558	0558.5	1				IIIG
			CULG				0610.5		1				IIIB
			CULG				0611.5	0612	1				IIIG
			CULG				0633	0634	1				IIIG
			CULG				0656.5	0657.5	2				IIIG
	0812	1843	WEIS										
	0904	0957	MANI										
	0913	2420	SGMR				1414.7	1414.9	1				V
			SGMR				1446.4	1446.5	1				III
			SGMR				1503.5	1503.8	1				V
			SGMR				1656.5	1656.8	1				V
	1215	2245	HARV				1656		1				IIIB
			SGMR				1709.0	1709.6	1				V
			SGMR				1821.4	1829.8	1				IIIG
			HARV				1823		1				IIB ,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
27			SGMR				1951.4	1951.7	1				V
			HARV				1951		1				IIIG,W
	2132	2400	MANI										
			SGMR				2153.0	2154.1	1				V
	2035	2400	CULG				2153	2154	1				RS,DP
			CULG				2153	2154.5	1				IIIG
			CULG				2209	2211.5					IIIGG,W
			CULG				2212.5						IIIB,W
			CULG				2328			2328.5			IIIB,W
28	0000	0955	MANI										
	0000	0735	CULG				0110						IIIB,W
			CULG				0238.5	0239.5					IIIG,W
			CULG				0240	0242	2	0240	0242	2	IIIG,V,U
			CULG				0404		1	0404		1	IIIB
	0408	1004	WEIS				0424.0	1736.0	2				IIIN
			CULG				0437	0439					IIIGG,W
			CULG				0501.5	0503.5	1				IIIG
			CULG				0505.5	0506					IIIG,W
			CULG				0515.5	0516					IIIG,W
			CULG				0545	0707	1				IS,DC
	1453	1843	WEIS				0601.0	0709.0	2				IS,DC
			CULG				0615.5						IIIB,W
	0913	2420	SGMR				1239.7	1240.0	1				V
	1215	2245	HARV				1244	1840	1				I
			SGMR				1431.0	1431.2	1				V
			SGMR				1502.0	1502.5	3				V
			SGMR				1502.5	1503.0	1				IIIG
			HARV				1502		2				IIIG
			SGMR				1735.0	1736.7	1				IIIG
			HARV				1736		1				IIIG
			SGMR				1814.1	1816.1	1				IIIG
			HARV				1840	2040	2				I
			HARV				2040	2245	1				I
	2035	2400	CULG	2108	2323	1							IN
			CULG				2113.5	2114					IIIG,W
	2135	2400	MANI										
			CULG				2305.5	2306	2				IIIG
			CULG				2307						IIIB,W
			CULG				2309						IIIB,W
29	0000	0955	MANI										
	0000	0735	CULG				0012						IIIB,W
			CULG				0013	0013.5					IIIG,W
			CULG	0100	0132								IN,W
			CULG				0135	0135.5					IIIG,W
			CULG	0200	0203	1							I
			CULG	0234	0235	1							I
			CULG				0358.5	0359					IIIG,W
			CULG				0408.5	0409					IIIG,W
	0408	1843	WEIS				0530.0	1829.0	2				IIIN
			CULG				0545.5						IIIB,W
			CULG				0626.5						IIIB,W
			CULG				0641.5		1				IIIB
			CULG				0649.5	0650.5	2				IIIG
	1215	2245	HARV				1238		1				IIIB,W
			HARV				1444		1				IIIB,W
	0913	2420	SGMR				1453.9	1454.6	2				V
			HARV				1635		1				IIIB
			HARV				1824	1829	2				IIIG
	2035	2400	CULG				2128.5						IIIB,W
	2135	2400	MANI										
			CULG				2205	2206					IIIG,W
			CULG				2222	2222.5	1				IIIB
			HARV				2222		1				IIIB
			CULG	2223		2							IIIG
			CULG				2317.5						IIIB,W
			CULG				2318	2318.5	1				I
			CULG				2320.5		1				IIIB
			CULG	2327	2327.5	1							IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
29			CULG				2348.5	2349	1	2348.5	2349	1	IIIG
30	0000	0907	MANI										
	0000	0719	CULG				0110.5						IIIB,W
			CULG				0126	0126.5					IIIG,W
			CULG				0139.5						IIIB,W
			CULG	0404.5	0405								I,W
			CULG				0413	0414					IIIG,W
			CULG				0413		3				IIIB
	0408	0425	WEIS				0414.0	1723.0	2				IIIN
			CULG				0458.5	0459.5	1				I
			CULG				0603.5						IIIB,W
			CULG				0605.5	0606					IIIG,W
			CULG				0624	0655	1				IS,C,DC
	0848	1843	WEIS				0913.0	1813.0	2				IN
	0914	0955	MANI										
	1215	2245	HARV				1215	1830	2				I
	1245	2420	SGMR										
			HARV				1618	1621	2				IIIG
	0913	0924	SGMR				1619.2	1620.3	1				IIIG
			HARV				1830	2245	3				IC
	2035	2400	CULG	2106	2126	1	2108	2255	1				IS,DC
			CULG				2111	2400					IIIN,W
			HARV				2111		1				IIIG
	2134	2400	MANI										
			CULG				2249.5		1				IIIB
			CULG				2253	2253.5	1				RS,DP
			CULG				2255	2400					IS,W

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

COSMIC RAY INDICES
(Neutron Monitors)

June 1979	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	CALGARY Average (cts/h)/100	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	KULA Average (cts/h)/100	HUANCAYO Average (cts/h)/100
1	4201.2	6874.7	6522.1		5843.8	3888.2	3589.4		1716.1
2	4243.0	6923.7	6554.8		5871.3	3899.1	3609.0		1721.9
3	4250.0	6935.8	6569.4		5905.0	3903.2	3609.7		1727.0
4	4240.0	6941.1	6558.1		5901.0	3901.1	3617.8		1723.5
5	4233.5	6911.9	6585.7		5916.9	3912.9	3608.1		1721.5(38)
6	4248.3	6928.0	6590.1		5911.0	3910.0	3606.0		1724.8
7	4049.2	6605.8	6259.4		5655.1	3726.3	3497.5		1675.6
8	4059.4	6626.9	6225.6		5659.8	3697.8	3493.8		1675.4
9	4085.1	6663.5	6278.3		5711.4	3741.4	3523.0		1687.7
10	4103.2	6690.9	6301.8		5718.2	---- (00)	3544.7		1696.7
11	4128.0	6738.0	6356.5		5744.5	---- (00)	3552.6		1707.1
12	4125.1	6443.3	6384.5		5748.0	3771.6(10)	3555.0		1708.7
13	4135.8	6730.0	6380.2		5763.4	3752.5	3555.7		1708.7
14	4134.4	6734.2	6392.2		5765.6	3778.3	3563.5		1710.7
15	4181.0	6761.8	6389.2		5785.3	3796.4	3566.8		1711.5
16	4172.2	6785.4	6397.9		5786.0	3812.2	3570.7		1715.3
17	4165.3	6774.5	6394.2		5760.8	3818.8	3576.0		1714.6
18	4151.1	6767.5	6403.6		5763.2	3815.4	3574.4		1708.5(36)
19	4176.7	6799.5	6446.6		5788.1	3832.6	3570.8		1711.4
20	4164.6	6809.6	6440.9		5807.8	3812.8	3565.4		1709.3
21	4165.0	6804.5	6407.9		5801.2	3791.7	3556.1		1705.6
22	4151.0	6768.0	6376.3		5772.9	3789.7	3562.5		1706.0
23	4131.9	6742.9	6379.0		5767.6	3788.2	3559.1		1701.3
24	4110.8	6714.5	6344.0		5743.9	3753.8	3549.2		---- (00)
25	4111.7	6710.1	6376.5		5745.5	3761.7	3548.3		1699.4(36)
26	4144.5	6761.7	6391.5		5774.4	3774.0	3561.2		1705.8
27	4153.1	6790.0	6421.6		5795.3	3808.7	3572.5		1713.3
28	4174.0	6801.6(20)	6473.4		5824.6	3829.0	3580.3		1718.8
29	4210.1	---- (00)	6507.0		5869.7	3852.7	3583.1		1723.5
30	4243.5	6943.8(09)	6543.9		5907.8	3887.6	3599.8		1729.8
MEAN	4161.4	6785.6	6421.7		5793.6	3816.0	3567.4		1709.7

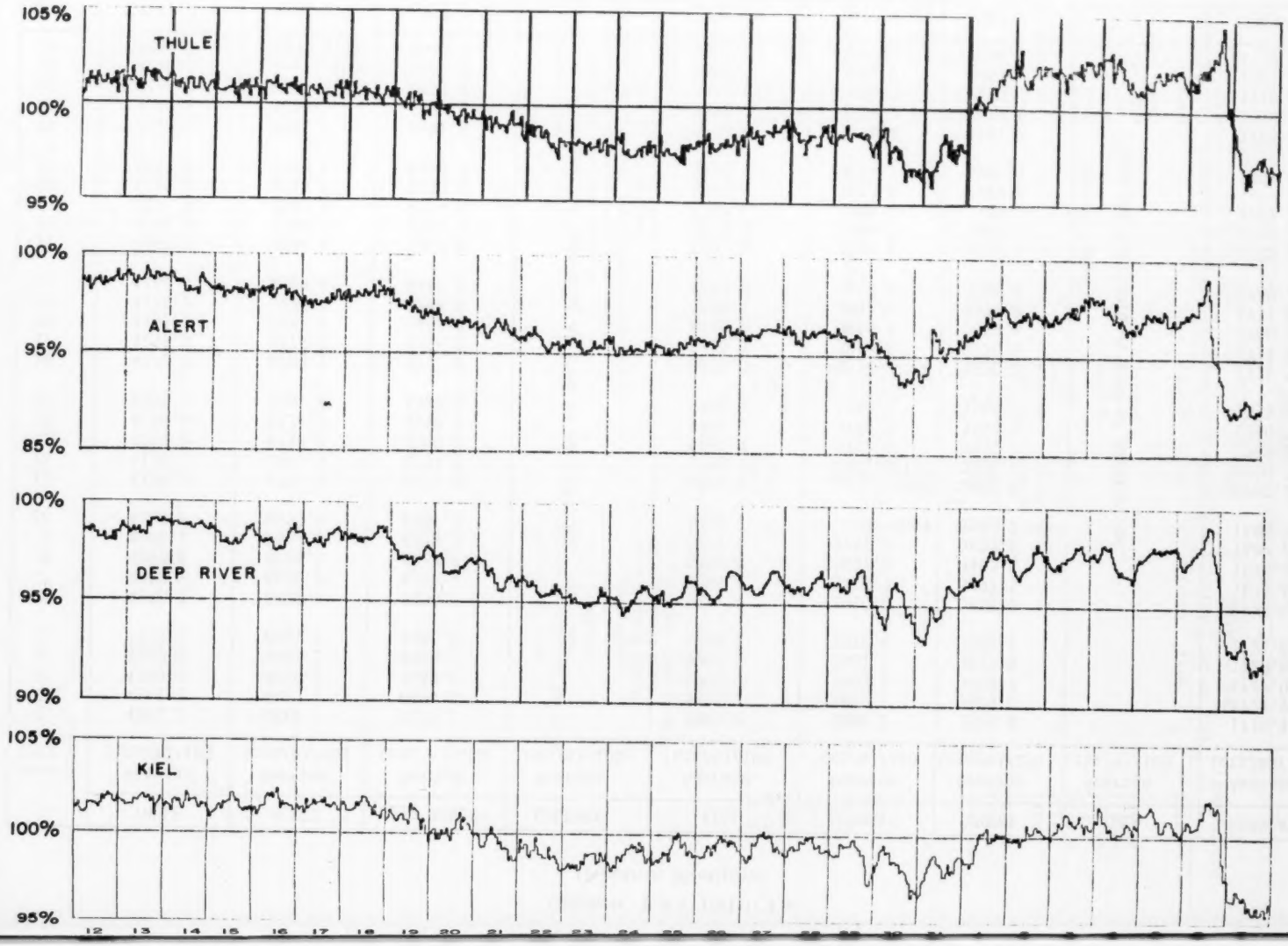
Data not available at time of publication.

Data not available at time of publication.

For less than 24-hour coverage parentheses enclose the number of hours for which data are available at Thule, Kiel and Tokyo. For Climax and Huancayo parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

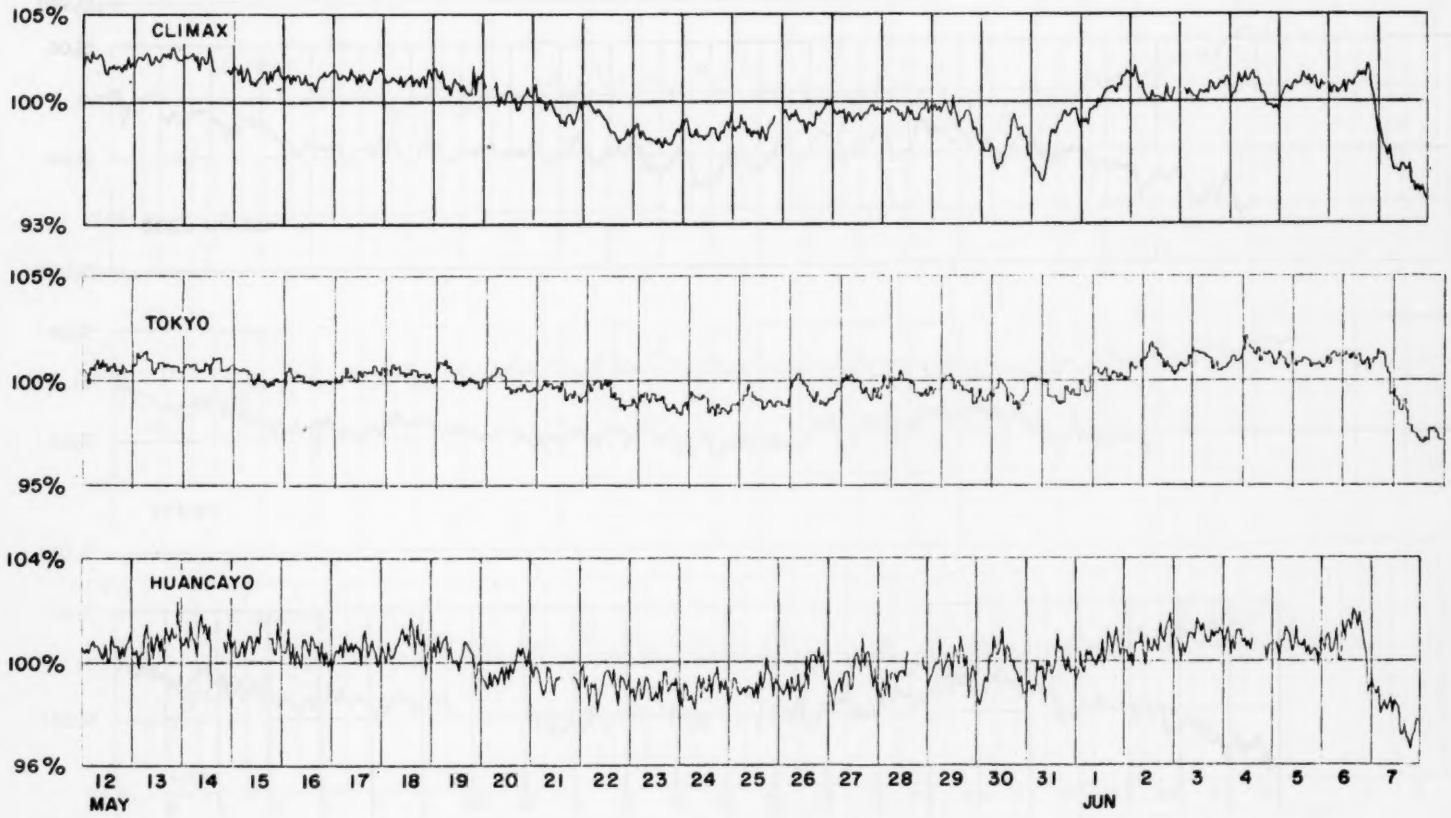
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1993 (May-June 1979)



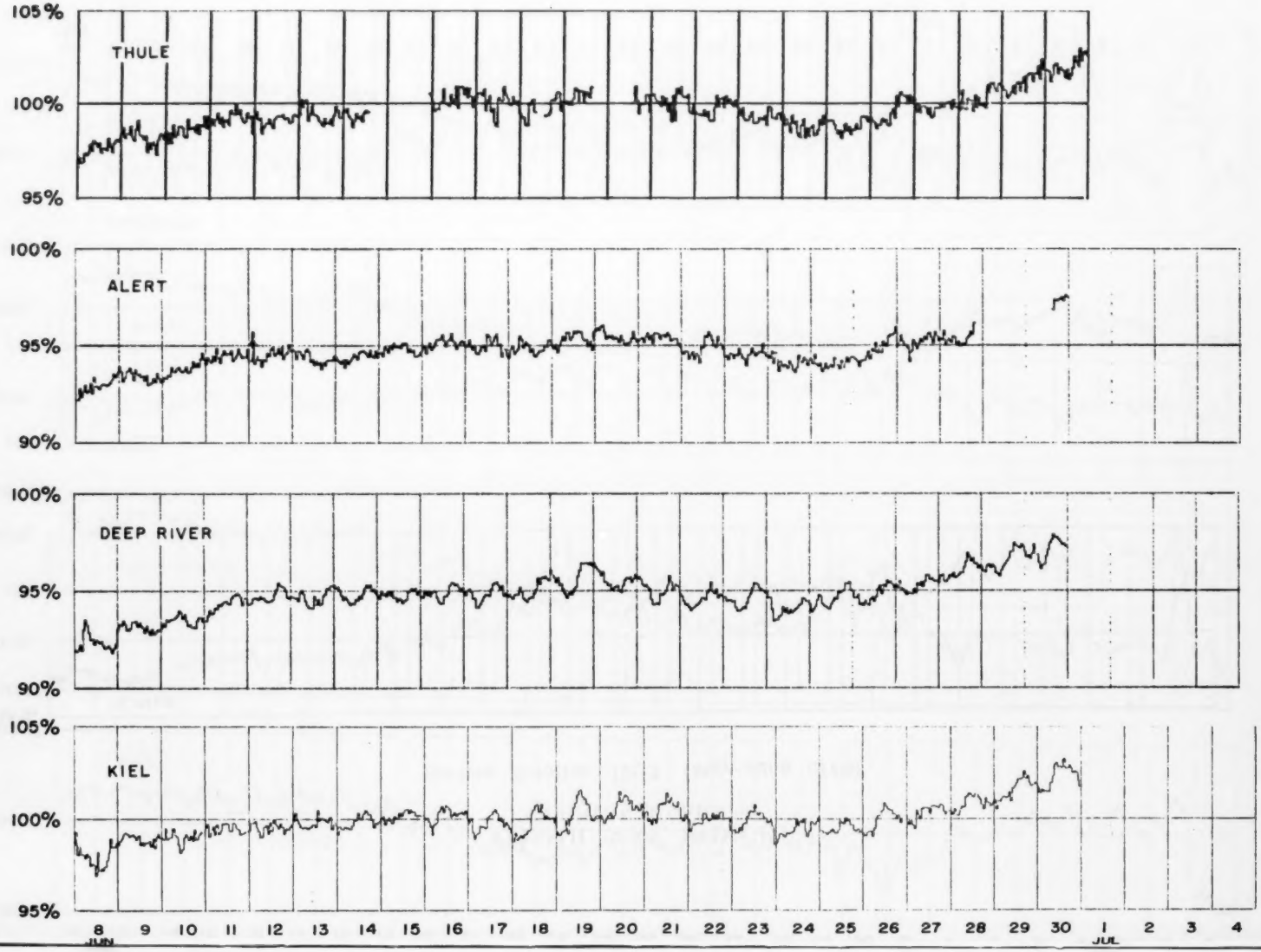
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1993 (May-June 1979)



COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1994 (June-July 1979)

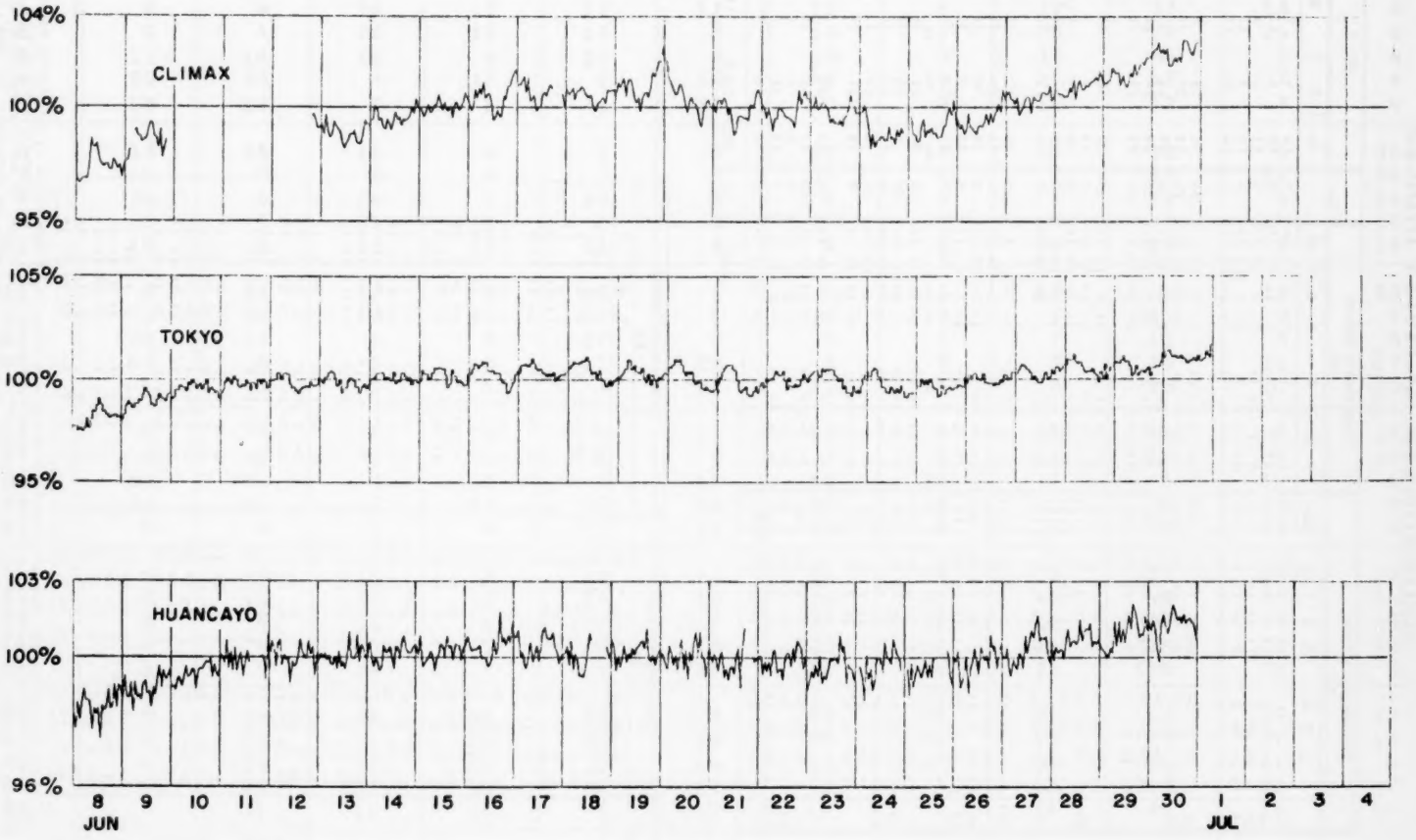


95%

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4
JUN JUL

COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1994 (June-July 1979)



GEOMAGNETIC ACTIVITY INDICES

JUNE 1979

Day	Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa *					Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M		
1	Q4	1-	1	1	1	1-	1+	1	3-	9+	1	1	1+	1-	0+	1+	1-	2-	5	14	4	7	12	CC	0.2
2	Q6	2-	2-	1-	2	1+	1	1-	3-	12-	1+	2	1-	2-	1	1	0+	2+	6	16	4	11	10	CC	0.3
3	Q2	1-	0+	0+	1	1+	1+	1+	2-	6	1	0	0+	0+	1	1	1+	2-	4	11	6	2	15	CC	0.1
4	Q7	1+	2-	2-	2	2	1+	2	1-	13-	1+	1+	2-	2	2-	1	1+	0+	6	16	8	11	13	KK	0.3
5	Q1	1	1	2-	1	1+	1-	1-	1-	8	1-	1-	1	1-	1+	1-	1-	0+	4	14	4	13	6	CK	0.1
6	D2	1	1+	1-	3-	4-	3	7	6	25+	1-	2-	1-	2+	3	3-	5+	5	34	51	28	9	70		1.3
7	D1	4-	5	5-	2-	3	4+	4+	3+	30	4-	5-	4-	2-	3-	3+	3	3	26	43	25	37	33		1.2
8		3	3-	2+	3-	3-	3	4-	3-	23-	3	3-	2+	2	2	2+	3-	2+	14	28	14	20	23		0.8
9		2+	3-	2+	3+	3+	4-	4-	3-	24	2+	3-	2+	3-	2+	3	3+	3-	15	29	20	21	29		0.9
10		2+	3-	3	3	3	3+	3+	2+	23	2+	2+	3	3	2+	3-	3-	2	14	29	20	22	28		0.8
11		2+	3	2+	2	3	3-	2-	2	19	2-	3-	2+	2-	2+	2	1+	2-	10	22	12	16	18		0.6
12	Q9A	2	2+	2-	1-	1	1-	3	2	13+	2	2+	2-	1	1-	1-	2	2-	7	13	5	9	10	CK	0.3
13		1+	1	0+	1+	3-	3	2+	3-	15-	1+	0+	0+	1+	2+	2+	2-	2+	8	15	9	6	19	KC	0.4
14		2+	2+	2-	2-	2-	2+	2-	1+	15	2-	2+	2-	2	1+	2-	1+	1	7	18	7	13	12	CC	0.4
15		1	2+	3-	1+	3-	2+	3-	3	18	1-	2	3-	2-	2	2-	2+	2+	10	16	10	10	16	C	0.5
16	D5*	3-	3-	3+	2+	4	3-	4-	3	24+	3-	3	3+	3-	4-	3-	3	3	16	29	22	19	33		0.9
17		2+	3+	2+	2	4-	4	3	2	23-	3-	3	2	2	3-	4-	3-	2-	14	28	24	20	34		0.8
18	Q5	1+	2+	2-	1+	1	2-	2-	1+	12+	1+	2+	2-	1	1-	1-	1+	1-	6	16	4	10	11	C	0.3
19	Q8	1+	3-	2	1+	1+	1+	1+	2-	13	1+	3-	2	2-	1+	1	1	1+	6	15	7	11	11	CC	0.3
20		2-	1	2	1	2+	2+	3-	3-	16-	2-	1	2	1+	2+	2	3-	2+	8	21	10	7	24		0.4
21		2-	2+	3	2+	3	3+	4	4-	23+	2-	2+	3+	2+	3-	3-	3+	3+	15	34	21	14	42		0.9
22	Q3	4	2	3+	3-	4-	4+	5+	3+	29-	4-	2-	3-	3-	3	4-	4	4-	24	36	29	26	39		1.2
23	D4*	3	4-	4	4-	3-	3-	3-	4	26+	3	4-	4-	3+	2+	3-	3-	4-	19	30	22	25	28		1.0
24		3-	3+	3	2	2-	1+	2	2	18	3-	3	3	2-	1+	1+	1+	2+	10	16	13	17	12		0.5
25		2+	3-	2+	2	2-	1+	3	2-	17	2-	3-	3-	2	2-	1+	3-	1+	9	18	15	16	18		0.5
26		0+	1	2-	2	5	4+	4+	4	23-	0+	1	1+	3-	4-	3+	3+	4-	20	39	23	9	53		1.0
27		3	3-	2+	3-	3-	3-	1+	0+	18-	3-	3-	2+	2+	3-	2+	1	0+	10	17	16	15	18		0.6
28	Q3	0+	1	2	1-	1-	1-	2-	1+	8+	0+	1-	2	0+	0+	1-	1	1+	4	9	4	5	8	CK	0.1
29	Q0A	1+	0+	0+	1+	2	2	3+	2+	13	1+	1-	0+	1+	2-	2	3	2	7	17	12	5	21	K	0.3
30		2	2-	2-	2-	2-	4-	2+	3	18-	2	2	2-	2-	1+	3-	1+	3-	10	22	8	9	22		0.5
																		Mean	12	22.7	13.5		18.4		0.58

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	1+	1+	1+	1	0+	2-	1	2+	0+	1-	1	0	0	1	0+	1+
2	1+	2	1	2	1+	1+	1	3-	1+	2+	0+	1+	0+	0+	0	2
3	1	0+	0+	1-	1+	1+	1+	2	1	0	0	0	1	1-	1	1+
4	2-	2-	2	2	2+	2-	2	1	1-	1	1	2-	1+	0+	1-	0
5	1	1+	1+	1	2-	1	1+	1	0	0+	1-	0+	1-	0+	0	0
6	1	2-	1	3-	4-	3	6	5+	0	2-	0+	2-	2	2-	4+	5-
7	4-	5-	4-	2	3	4-	3+	3+	4	5-	4	1+	2	3-	3-	3-
8	3-	3-	2+	2+	3-	3	3	3-	3	3-	2+	2-	1+	1+	2+	2
9	2+	3	3-	3	3-	3+	3+	3-	2+	2+	2	3-	2-	3-	3	2+
10	2	2+	3	3	3	3	3-	3-	2+	3-	3	3-	2-	2	2+	1
11	2	3-	2+	2	3-	3-	2-	2+	2-	2+	2	1+	2-	1+	1+	1
12	2+	2+	2	1+	1	1	2+	2+	1+	2	1+	0+	1-	0+	2-	1+
13	1+	0+	1-	2-	3-	3-	2	2+	1	0+	0+	1+	2-	2-	1+	2+
14	2	3-	2+	2+	1+	2+	2-	2-	2-	2+	1	1+	1+	1+	0+	0+
15	1-	2+	3-	2	3-	2+	2+	3-	1-	2-	2+	1+	1+	1+	2+	2
16	2+	3	3+	3	4-	3-	3	3-	3	3-	3	2+	3	3-	3	3
17	2+	3	2+	2	3	4-	3	2	3-	3	2-	2+	2	3+	3-	2-
18	2-	2+	2-	1+	1+	1+	2-	1	1+	2-	1+	0+	0+	0+	1	0+
19	1+	3	2-	2-	1+	1+	1+	1+	1+	3-	2+	2-	1	1-	0+	1
20	1+	1	2+	2	3-	3-	3-	3-	2	1-	2-	1-	2-	1+	3-	2
21	2	2+	3+	2+	3	3	3+	3+	1+	2+	3	2	3-	2+	4-	3+
22	4-	2-	3	3-	3	4-	4	4-	4-	2	2+	3-	3+	3+	4-	4-
23	3-	4-	4	3+	3	3-	3-	3+	3+	4	4-	3	2-	3-	2+	4-
24	2+	3	3	2-	2-	1+	2-	2+	3-	3	3	2-	1+	1+	1+	2+
25	2	3	3-	2	2-	2-	2+	2-	2-	3-	2+	2	2-	1-	3-	1
26	1-	1+	1+	2+	4	3+	3+	4-	0	1	2-	3-	4-	3	3+	3+
27	3	3-	3-	3-	3	2+	1+	1-	2+	3-	2	2-	3-	2	1-	0
28	1-	1	2+	1	1-	1+	1+	2-	0	0+	1+	0	0	0+	1-	1-
29	1+	1-	1-	2-	2	3-	3	2	1	0+	0	1	1	1+	3	2-
30	2+	2	2-	2+	2-	3+	2	3	2	2	2-	1+	1-	2-	1-	2+

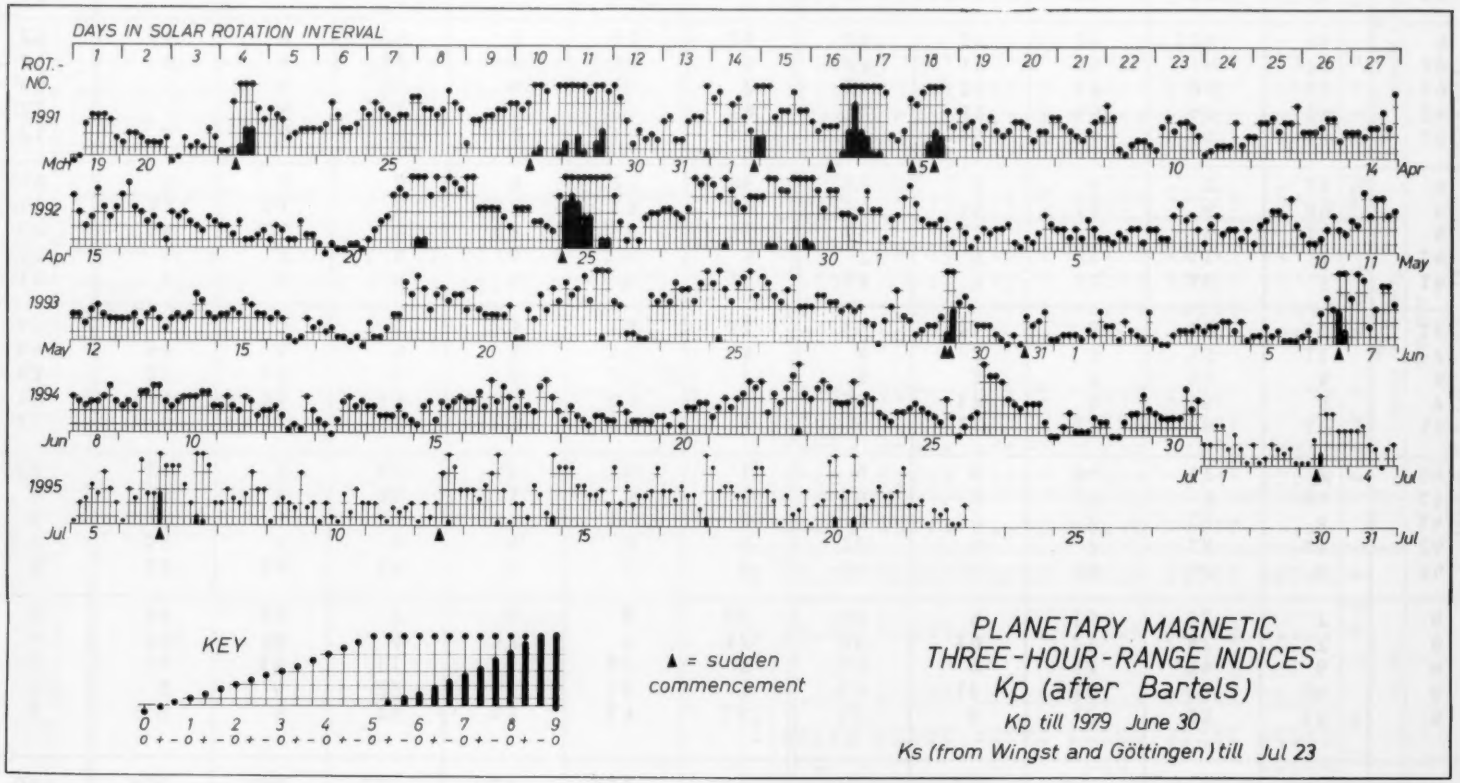
Quiet days (Q) and disturbed days (D), geomagnetic planetary three-hour-range indices (Kp) (integers alone are equivalent to those normally given with a small zero), magnetic character figures (Cp), and average amplitude (Ap) (unit 2 nT) are prepared by Geophysikalisches Institut at the University of Göttingen, F.R. of Germany for the International Service of Geomagnetic Indices. Ten most quiet days [Q1-Q0(10)] and five most disturbed days [D1-D5] are ordered from most quiet or disturbed, respectively. A or K means "not really quiet" (A = "Ap>6", K = "Ap≤ 6 but one Kp≥ 3o or two Kp values ≥ 3-"). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic three-hourly indices Kn, Ks and Km as in *IAGA-Bulletin No. 32* and indices aa ("antipodal") as in *IAGA-Bulletin No. 33* are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. Really quiet (C) and quiet but slightly disturbed three-hourly intervals (K) are given for 24-hour and 48-hour intervals centered on 1200 UT.

DAILY AVERAGE INDICES Ap

	1978						1979					
DAY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
1	6	4	21	13	13	11	10	6	12	33	18	5
2	5	4	20	12	10	3	19	10	20	36	14	6
3	11	16	11	8	12	5	19	9	13	54	6	4
4	80	30	8	17	5	12	45	19	27	47	7	6
5	53	22	7	8	6	10	23	9	13	52	7	4
6	13	16	14	4	2	5	18	16	30	12	6	34
7	14	7	6	4	9	2	32	6	7	12	11	26
8	14	6	24	5	14	3	8	9	7	12	8	14
9	8	5	31	11	8	3	15	9	15	9	14	15
10	10	6	12	15	16	1	4	6	54	12	7	14
11	6	11	12	5	10	1	4	12	18	6	19	10
12	4	21	13	14	53	4	10	17	6	15	9	7
13	20	13	6	8	22	7	5	3	7	11	8	8
14	48	6	5	5	11	28	8	2	3	15	11	7
15	6	3	3	5	8	28	15	11	8	18	11	10
16	6	4	6	4	6	14	12	7	11	16	5	16
17	6	9	8	5	6	9	7	5	21	11	3	14
18	18	24	3	32	5	48	11	22	7	6	11	6
19	11	11	2	22	13	24	19	15	11	6	24	6
20	5	3	5	9	22	26	12	6	6	2	13	8
21	6	6	9	13	16	12	11	59	4	21	13	15
22	8	6	12	10	28	19	14	33	45	45	35	24
23	8	4	11	6	12	7	27	31	12	23	11	19
24	6	4	10	5	18	6	23	17	15	14	27	10
25	8	9	36	7	60	21	34	14	21	126	34	9
26	5	4	36	18	33	8	28	22	26	12	25	20
27	4	29	51	23	17	14	23	24	18	27	17	10
28	6	124	50	14	5	14	13	17	39	31	11	4
29	4	40	109	16	4	20	13		68	47	30	7
30	3	31	11	25	5	27	16		16	26	10	10
31	2	45		20		18	13		19		6	
MEAN	13	17	18	12	15	13	16	15	19	25	14	12

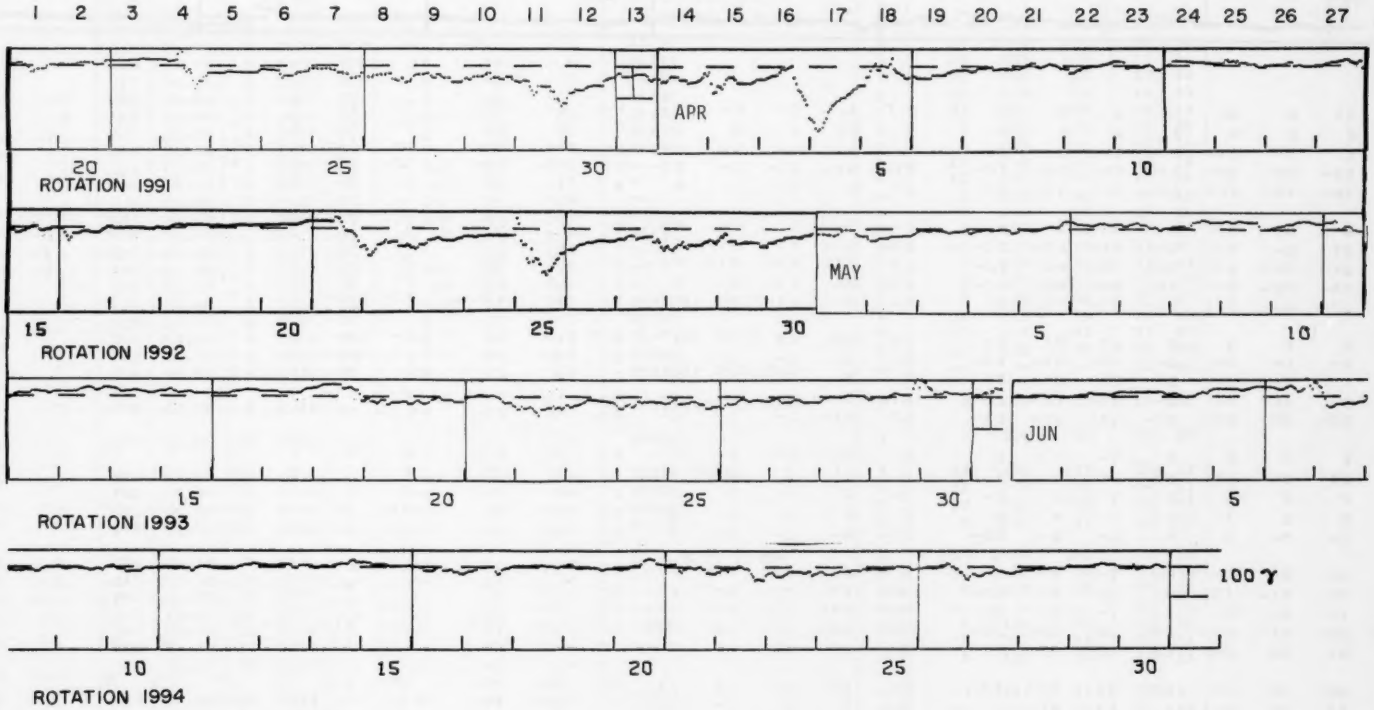
GEOMAGNETIC ACTIVITY INDICES



GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

by Bartels Rotation



Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

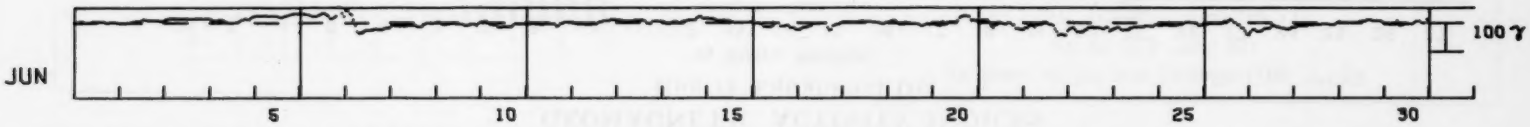
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

JUNE 1979

NASA/GODDARD SPACE FLIGHT CENTER

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	3	3	4	2	-1	-4	-4	-3	1	3	3	2	1	2	3	-1	-4	-5	1	1	0	-2	-5	-6
2	-6	-4	-6	-1	-1	1	3	3	5	2	3	7	11	10	5	4	4	4	6	5	4	2	2	3
3	10	12	13	14	11	11	10	11	12	12	11	11	11	11	11	12	14	14	11	10	12	14	14	11
4	7	3	7	7	10	9	5	1	-1	-5	-6	-3	-1	0	0	5	9	10	13	7	9	15	19	22
5	23	23	22	21	20	22	21	19	21	22	20	17	14	14	23	22	24	26	28	30	30	27	27	26
6	27	27	24	23	22	19	17	17	18	24	27	31	28	23	18	11	13	16	22	53	48	28	19	41
7	37	25	22	7	-13	-34	-39	-35	-32	-27	-25	-25	-25	-23	-22	-21	-27	-28	-27	-22	-19	-18	-20	-15
8	-9	-14	-11	-16	-14	-11	-15	-12	-10	-12	-10	-10	-13	-17	-16	-14	-8	-4	-1	-3	-3	-5	-1	0
9	2	-3	-8	-11	-10	-5	-4	-2	-2	-2	-9	-7	-8	-10	-12	-14	-10	-9	-6	-6	-11	-13	-4	1
10	2	4	5	-2	-10	-11	-10	-12	-18	-15	-15	-13	-15	-16	-17	-15	-9	-4	-6	-8	-6	-5	-6	-9
11	-5	-4	-5	-6	-5	-4	-9	-11	-8	-5	-4	-6	-6	-7	-8	-15	-12	-5	-2	1	2	-2	-2	-2
12	-4	-7	-6	-7	-9	-9	-6	-10	-8	-6	-5	-5	-5	0	3	3	7	4	5	5	11	8	8	5
13	6	9	3	1	1	1	0	2	6	9	7	5	6	6	2	-5	-7	-3	4	5	4	4	2	1
14	0	-6	-5	-5	0	4	1	0	-6	-4	4	6	7	9	10	7	6	7	15	20	17	12	12	13
15	11	13	10	9	6	3	8	7	7	5	4	2	-1	-3	-2	0	0	1	-1	0	0	1	3	2
16	-4	-2	-2	-7	-6	-14	-17	-18	-17	-14	-12	-5	-1	-3	-14	-15	-13	-10	-11	-19	-20	-21	-25	-27
17	-25	-19	-15	-17	-14	-11	-11	-4	-6	-3	-3	-2	-1	-1	-4	-18	-27	-23	-12	-8	-6	-7	-2	1
18	2	1	0	0	0	-1	-2	1	3	4	3	2	2	1	1	-2	-2	-2	-3	-5	-7	-3	1	2
19	3	7	7	3	-3	-3	-10	-7	-5	-4	-4	-6	-5	-5	-5	-8	-11	-14	-11	-8	-6	-9	-8	-9
20	-9	-12	-13	-11	-7	-8	-6	-1	2	-1	0	2	7	16	20	23	21	18	17	8	4	3	3	3
21	3	5	6	8	6	-4	-14	-21	-11	-8	-4	-3	-6	-10	-5	-1	-4	-11	-12	-22	-22	-26	-27	-25
22	-18	-17	-12	-10	-10	-17	-8	-9	-7	-5	1	0	-5	-10	-9	-13	-23	-34	-44	-40	-39	-46	-43	-28
23	-22	-19	-17	-25	-35	-32	-35	-36	-26	-23	-17	-18	-18	-20	-19	-17	-21	-24	-21	-16	-17	-30	-25	-22
24	-19	-16	-20	-25	-29	-29	-25	-25	-19	-17	-14	-18	-15	-14	-15	-15	-12	-13	-13	-15	-14	-8	-10	-13
25	-10	-9	-8	-9	-11	-13	-10	-12	-10	-7	-8	-8	-3	1	-1	-2	-4	-4	-2	-6	-12	-10	-8	-8
26	-6	-3	-3	-7	-3	-6	-6	-5	-6	-1	4	4	2	10	3	-2	-4	-11	-9	-20	-23	-31	-41	-45
27	-32	-23	-26	-32	-34	-31	-27	-21	-19	-21	-19	-13	-9	-13	-18	-16	-21	-23	-22	-25	-24	-20	-16	-16
28	-14	-12	-12	-14	-12	-12	-11	-7	-11	-9	-7	-6	-8	-5	-4	-4	-5	-6	-10	-10	-10	-4	1	4
29	-2	-3	-1	-1	0	-1	-2	-2	0	0	4	6	5	5	10	8	6	3	5	7	6	3	0	-7
30	-9	-9	-8	-5	-9	-2	6	-11	-10	-7	-4	-3	-3	-5	-4	0	5	6	4	-3	-5	0	11	6



Note: Due to the adoption of updated, improved baselines for the magnetic observatories used in the Dst calculation there is a discontinuity (of about 10 nT) in the reference level of the provisional Dst between the last hourly interval of May (distributed last month) and the first hour of June. Revised provisional Dst values based on the new baselines will be provided upon request. However, the baseline changes have no significant effects on relative values of Dst over period of one month or less. The final Dst values for 1979 will be published after the end of the year based on baselines further updated. The revision of baselines is related to the circumstance that during periods of high solar activity, accurate baseline determinations are more difficult than during years of low solar activity.

end of the year based on baselines further updated. The revision of baselines is related to the circumstance that during periods of high solar activity, accurate baseline determinations are more difficult than during years of low solar activity.

PRINCIPAL MAGNETIC STORMS

JUNE 1979

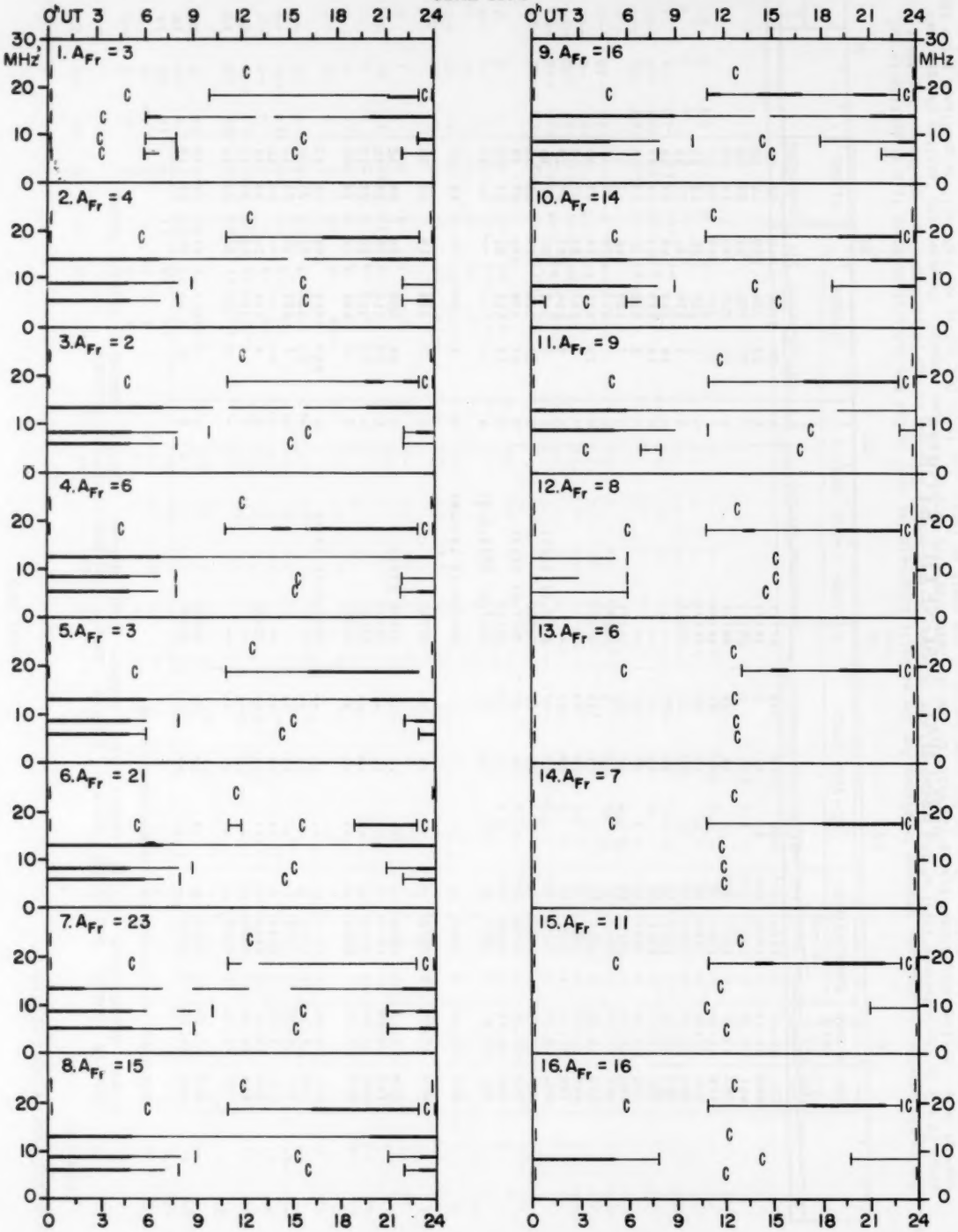
OBS. 3 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
COL	64.6N	6	1926	SC*	-56	-312	-70	07(2)	6	95	1290	440	08	11
NEW	55.1N	6	1926	SC*	13	84	6	06(7)	6	28	238	129	11	13
WIT	54.2N	6	1927	SC*	- 8 *	180 *	7	06(7)	7	32	290	22	07	08
FRD	49.6N	6	1927	SC*	6	44	-12	06(8)	6	22	205	58	11	09
IRK	41.0N	6	1927	SC	- 5.5	105	25	06(8)	7	32	221	55	08	12
SJG	29.9N	6	1927	SC	1	43	15	06(7)	5	6	108	36	10	05
HON	21.1N	6	1927	SC	4	15	6	06(7)	5	5	154	41	07	16
JAI	17.3N	6	1927	SC	- 2.3	91	-20	--	-	10	148	49	07	18
SHL	14.7N	6	1927	SC	.6	81	17	--	-	10	136	53	07	18
UJJ	13.5N	6	1927	SC	- 1	97	-20	--	-	8	180	36	07	18
ABG	09.5N	6	1927	SC	- 1.4	83	-12	06(7)	6	7	139	42	07	18
HYB	07.6N	6	1928	SC	- .5	85	- 6	06(7)	6	7	153	28	08	10
GUA	04.0N	6	1927	SC	1	50	-15	06(7)	5	10	130	30	07	08
ANN	01.5N	6	1927	SC	- 3.2	98	53	--	-	7	163	103	07	18
TRD	01.1S	6	1927	SC	.5	83	112	--	-	6	184	203	07	18
PHG	18.6S	6	1926	SC*	1.8*	57	57	06(7,8) 07(2)	5	5	140	90	07	09
HER	33.7S	6	1927	SC	4	38	28	06(7)	5	18	110	74	08	15
GNA	43.2S	6	1928	SC*	10 *	64	59 *	06(7,8) 07(2)	5	17	130	100	07	09
TOO	46.7S	6	1928	SC*	9 *	67	8	06(8)	5	17	140	50	07	09
KGL	56.5S	6	1927	SC	52	66	34	06(7,8) 07(1,2,3)	4	--	--	--	08	11
HYB	07.6N	8	1700	..	..	..	..	09(3,4,7) 10(4,6)	3	8	84	37	10	22
HYB	07.6N	16	1900	..	..	..	..	17(6)	4	7	108	19	18	09
NEW	55.1N	21	1844	..	..	..	..	22(7) 23(3)	5	28	150	129	24	12
FRD	49.6N	21	18--	..	..	..	..	22(7)	5	22	114	76	24	11
IRK	41.0N	21	0500	..	..	..	..	23(3)	5	23	102	50	23	18
HYB	07.6N	21	0500	..	..	..	..	22(7)	5	8	182	27	23	23
COL	64.6N	22	11--	..	..	..	..	22(5,6,7) 23(4)	6	247	1560	850	24	13
JAI	17.3N	22	0000	..	..	..	..	--	-	11	116	34	23	11
SHL	14.7N	22	0000	..	..	..	..	--	-	8	125	40	23	11
UJJ	13.5N	22	0000	..	..	..	..	--	-	--	--	--	23	11
ABG	09.5N	22	0000	..	..	..	..	22(7)	5	8	134	36	23	11
ANN	01.5N	22	0000	..	..	..	..	--	-	8	167	42	23	11
TRD	01.1S	22	0000	..	..	..	..	--	-	8	197	94	23	11
HYB	07.6N	26	0900	..	..	..	..	26(5)	4	8	107	21	27	18
KGL	56.5S	26	1000	..	..	..	..	26(7)	5	--	--	--	27	18

REPORTS WERE RECEIVED FROM THE FOLLOWING OBSERVATORIES:

ALIBAG ANNAMALAINAGAR COLLEGE FREDERICKSBURG GNANGARA GUAM HERMANUS HONOLULU HYDERABAD IRKUTSK JAIPUR
KERGUELEN NEWPORT PORT MORESBY SAN JUAN SHILLONG TOOLANGI TRIVANDRUM UJJAIN WITTEVEEN

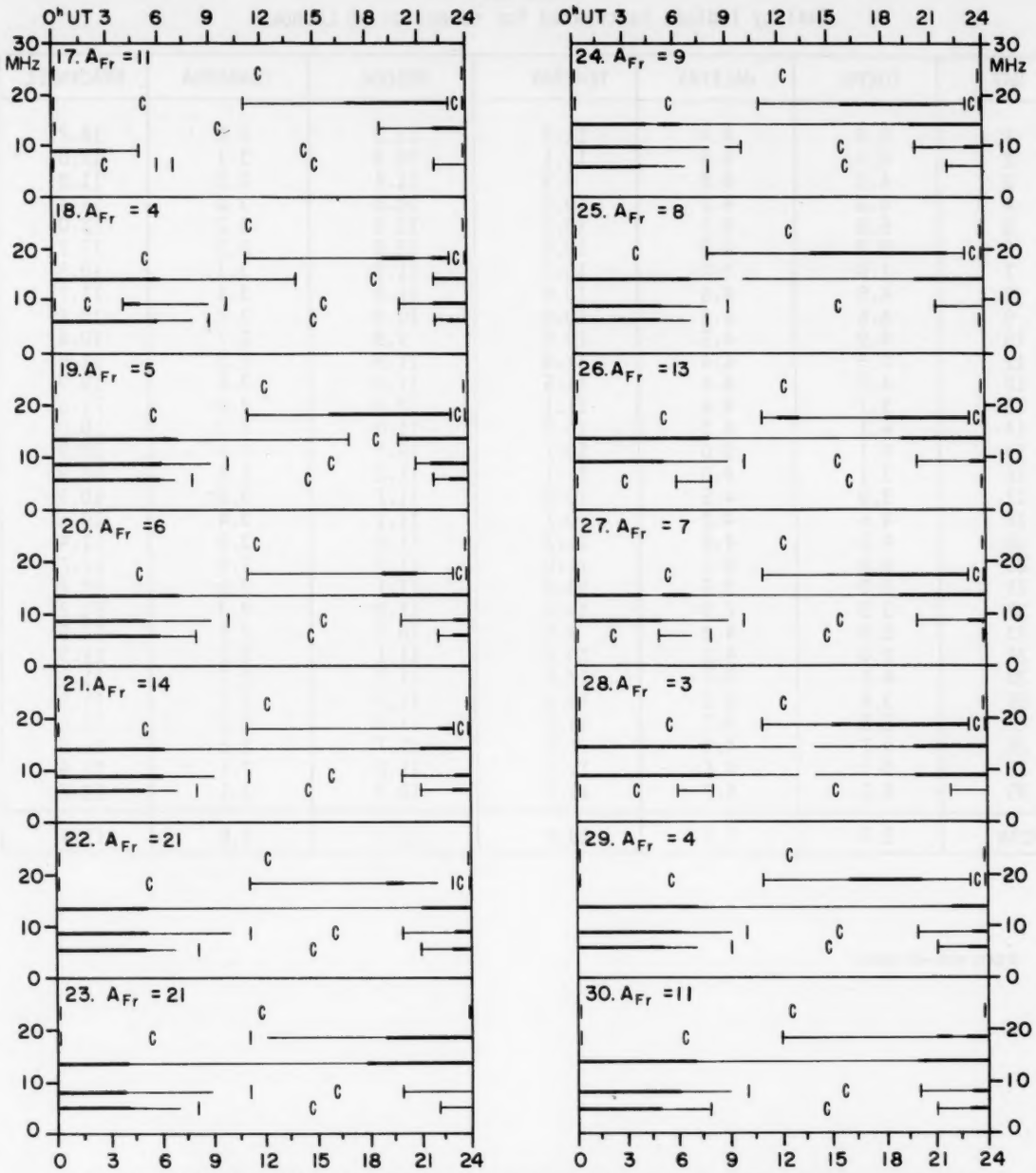
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JUNE 1979



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JUNE 1979



Field strengths from five frequencies, 6.4, 8.5, 12.8, 17.1, and 22.4 MHz, observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

JUNE 1979

Quality Indices calculated for reception at Lüchow

DAY	TOKYO	HALIFAX	TEHERAN	MOSCOW	CANBERRA	BRACKNELL
1	5.5	4.4	11.2	11.2	2.9	12.2
2	4.3	4.6	11.1	10.9	3.1	12.0
3	4.3	4.4	9.9	11.4	2.8	11.8
4	4.0	4.7	10.4	10.6	3.0	11.4
5	5.8	5.1	10.3	11.5	3.2	12.0
6	3.2	4.8	10.4	12.0	2.2	12.2
7	1.6	3.8	10.7	11.0	3.3	10.5
8	4.5	4.6	10.4	11.8	3.4	11.7
9	4.5	4.8	10.9	10.4	3.0	10.7
10	4.9	4.5	10.9	9.9	2.7	10.6
11	4.3	4.4	11.0	11.6	2.5	11.8
12	4.2	4.4	11.5	11.0	2.6	10.9
13	3.7	4.4	11.1	12.1	2.8	11.6
14	4.1	4.3	10.9	11.0	3.0	10.8
15	5.1	5.0	10.7	12.7	3.8	10.9
16	3.1	4.8	11.1	11.2	2.8	10.9
17	3.9	4.5	10.9	11.1	3.0	10.3
18	4.6	4.2	10.7	11.1	3.4	10.6
19	4.5	4.8	11.3	11.6	3.0	11.4
20	4.0	4.1	11.0	11.2	2.9	12.2
21	3.0	3.9	10.9	11.1	2.0	11.7
22	3.0	2.9	10.3	11.2	2.3	11.2
23	0.9	4.2	9.9	10.5	2.5	11.2
24	2.0	4.2	10.4	11.1	2.7	11.3
25	4.1	4.5	10.5	11.2	2.7	11.2
26	3.4	5.0	10.9	11.4	2.7	11.2
27	2.8	4.7	11.0	11.0	2.6	10.8
28	4.7	4.5	11.0	10.7	2.6	11.6
29	5.3	4.6	11.5	11.2	2.1	11.9
30	4.2	4.2	11.2	10.3	3.1	12.0
MEAN	3.9	4.5	10.8	11.2	2.8	11.4

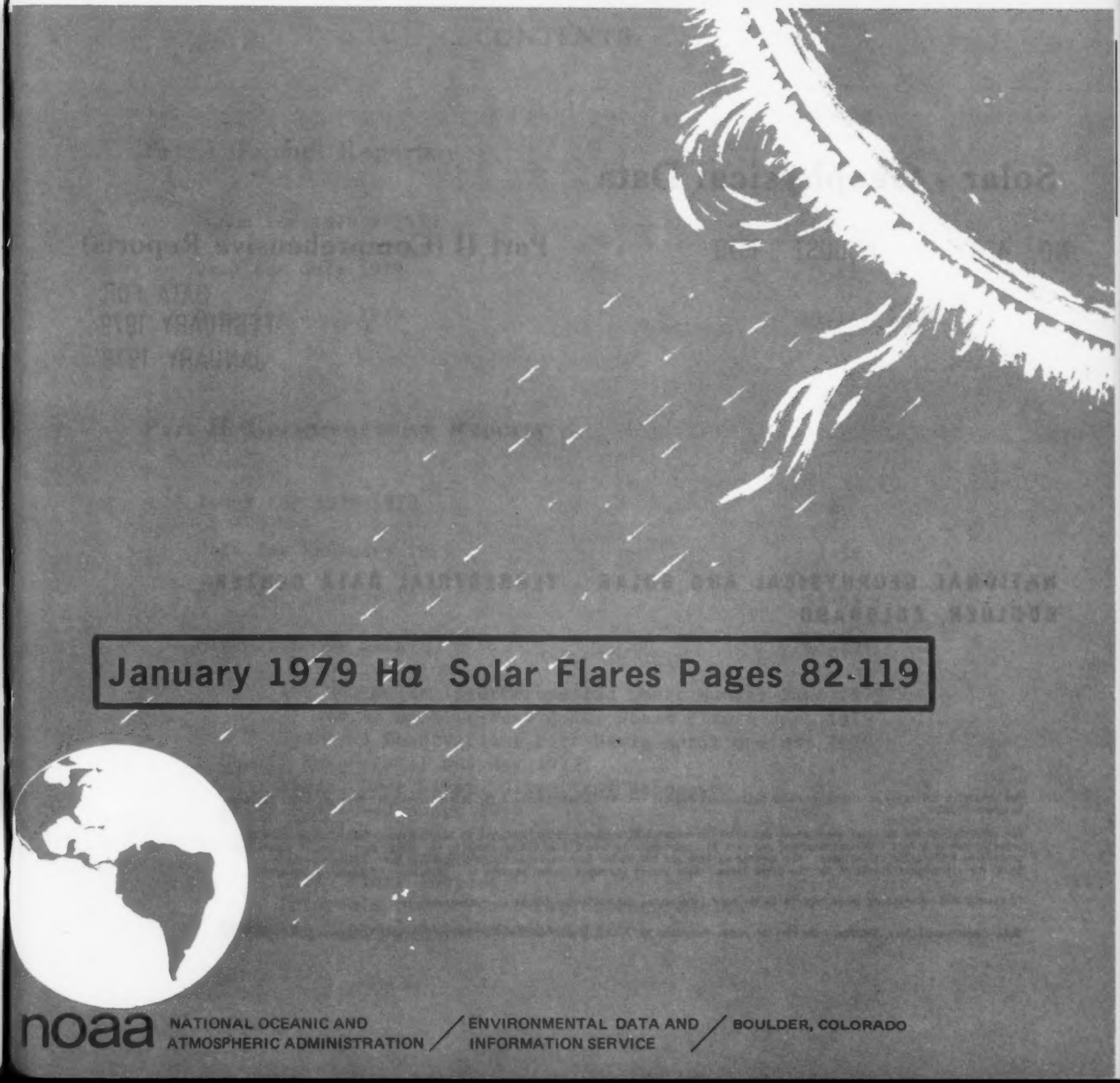
☆GPO 1979—677-073/4

astro QB1.U57
No420,pt2

AUGUST 1979 NUMBER 420 -- Part II P-A STACKS SEP 24 1979

Solar-Geophysical Data comprehensive reports

Data for February 1979 -- January 1979 & Miscellanea
Explanation of Data Reports Issued as Number 414 (Supplement) February 1979



January 1979 Hα Solar Flares Pages 82-119

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA AND INFORMATION SERVICE / BOULDER, COLORADO

U.S. DEPARTMENT OF COMMERCE
Juanita M. Kreps, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Richard A. Frank, Administrator
ENVIRONMENTAL DATA AND INFORMATION SERVICE
Thomas D. Potter, Acting Director

Solar - Geophysical Data

NO. 420 AUGUST 1979

Part II (Comprehensive Reports)

DATA FOR
FEBRUARY 1979
JANUARY 1979

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80302.

For sale through the National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO 80302. Subscription Price: $34.00 annually for both Part I (Prompt Reports) and Part II (Comprehensive Reports) or $18.00 annually for either part. Annual supplement containing explanation is included. For foreign mailing add $32.00 for both parts or $16.00 for either part. Single issue price $1.50 for either part and $1.40 for the extra issue. Make checks and money orders payable to: Department of Commerce, NOAA/NGSDC.

To standardize referencing these reports in the open literature, the following format is recommended:

Solar-Geophysical Data, 390 Part I (or Part II), pages, February 1977, U.S. Department of Commerce, (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 420

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

CONTENTS

PAGE

Part I (Prompt Reports)

Index for 1978 - 1979 2

Data for July 1979 3-41

Data for June 1979 43-169

Part II (Comprehensive Reports)

Index for 1978-1979 2

Data for February 1979 3-54

Data for January 1979 55-65

Miscellaneous Data 67-121
Solar Radio Emission
169 MHz Solar Interferometric Chart Nancay June 1979
21 and 43 cm East-West Solar Scans Fleurs June 1979
Spectral Observations Fort Davis April and May 1979
Cosmic Rays--April and May 1979
Alert, Deep River, Climax and Huancayo
Solar Flares--January 1979
Hα Solar Flares (Standardized Data)
Hα Solar Flares Peking
Daily Flare Indices
Intervals of No Flare Patrol Observation
Regional Flare Index--December 1978

DETAILED COVERAGE FOR 1978 AND 1979 PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1978 Sep	Oct	Nov	Dec	1979 Jan	Feb	Mar	Apr	May	Jun	Jul
A.	SOLAR AND INTERPLANETARY PHENOMENA											
A.1	Sunspot Drawings	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.2a	Zurich Provisional Relative Sunspot Numbers Rz	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.2b	Zurich Final Sunspot Numbers Rz	415A 10	415A 10	415A 10	415A 10							
A.2c	American Relative Sunspot Numbers RA	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.3a	Mt. Wilson Magnetograms	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	411A106	412A102	413A108	414A110	418B 50	418B 60	417A106	418A108	419A110	420A110	
A.3c	Kitt Peak Magnetograms	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.3d	Mean Solar Magnetic Field (Stanford)	410A 41	411A 40	412A 34	413A 42	414A 42	415A 44	416A 42	417A 36	418A 38	419A 38	420A 40
A.3e	Stanford Magnetograms					415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.4	H-alpha Filtergrams	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.5	Calcium Plage Drawings - McMath (or Catania)	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.5a	Calcium Plage (McMath) and Sunspot Regions	411A106	412A102	413A108	414A110	418B 50	418B 60	417A106	418A108	419A110	420A110	
A.5b	McMath Daily Calcium Plage Indices	411A116	412A114	413A116	414A121	415A125	416A116	417A118	418A118	419A123	420A121	
A.6	H-alpha Synoptic Charts	411A 44	412A 38	413A 46	414A 46	415A 48	416A 46	417A 40	418A 42	419A 43	420A 44	
A.6b	Synoptic Chart and Active Regions (Paris)	4158 4	416B 4	417B 4	418B 4	419B 4	420B 4					
A.6c	Stanford Solar Magnetic Field Synoptic Charts					415A 49	416A 47	417A 41	418A 43	419A 44	420A 46	
A.6d	Kitt Peak Solar Magnetic Field Synoptic Charts								418A 45	419A 45	420A 48	
A.7f	Helium D3 Chromosphere (Big Bear)	410A 37	411A 36	----	413A 38	----	----	416A 38	417A 33	418A 34	419A 34	420A 35
A.7g	Helium Synoptic Maps (KPNO)	410A 38	411A 35	412A 30	413A 36	414A 34	415A 40	416A 36	417A 32	418A 33	419A 33	420A 34
A.7h	Coronal Line Emission (Sac Peak)	411A 46	412A 40	413A 48	414A 48	415A 52	416A 50	417A 44	418A 48	419A 48	420A 50	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (ARO-Ottawa)	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.8g	Daily Values of Adjusted Solar Flux (AFGL)	410A 11	411A 11	412A 9	413A 11	414A 11	415A 11	416A 11	417A 9	418A 11	419A 11	420A 11
A.9cb	8.6 mm Radio Maps of the Sun (NOSC - La Posta)	411A 46	----	----	----	----	----	----	----	419A 48	420A 50	
A.9d	2 cm Radio Maps of the Sun (NOSC - La Posta)	411A 46	----	----	----	----	----	----	----	419A 48	420A 50	
A.10a	169 MHz - Interferometric Observations (Nancay)	410A 23	411A 20	412A 18	413A 21	414A 24	415A 25	416A 25	417A 21	419B 52	420B 69	420A 24
A.10c	21 cm East-West Solar Scans (Fleurs)	412B 58	411A 23	412A 21	415B 68	414A 27	415A 28	416A 28	417A 24	418A 25	420B 70	420A 27
A.10d	43 cm East-West Solar Scans (Fleurs)	412B 59	411A 24	412A 22	415B 69	414A 28	415A 29	416A 29	417A 25	418A 26	420B 71	420A 28
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	410A 25	411A 22	412A 20	413A 23	414A 26	415A 27	416A 27	417A 23	418A 24	419A 26	420A 26
A.10f	3 cm East-West Solar Scans (Toyokawa)	410A 24	411A 21	412A 19	413A 22	414A 25	415A 26	416A 26	417A 22	418A 23	419A 25	420A 25
A.11k	Solar X-ray Radiation (SOLRAD 11)	411A120	412A118	413A119	414A126	415A129	416A120	417A119	418A122	419A126	420A124	
A.11g	Solar X-ray (SMS/GOES) (graphs)	416B 96	416B 52	417B 41	418B 31	419B 33	420B 53					
A.12ba	Cosmic Ray Protons (Pioneers 6 & 7)	----	----	----	----	414A 36	----	----	----	----	----	----
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	----	----	412A 29	----	414A 37	----	----	----	----	----	----
A.12e	Energetic Solar Particles (IMP H & J)	416B 91	416B 46	417B 36	418B 26		420B 48					
A.12f	Energetic Solar Particles (GMS/SEM)	----	----	----	----	----	----	----	----	----	----	----
A.13a	Solar Wind (Pioneers 6 & 7)	----	----	----	----	414A 36	----	----	----	----	----	----
A.13ab	Solar Wind (Pioneers 8 & 9)	----	----	412A 29	----	414A 37	----	----	----	----	----	----
A.13d	Solar Wind from IPS Measurements	410A 39	414B 50	414B 51	414B 52	414A 39	415A 45	416A 39	417A 37	418A 35	419A 35	420A 37
A.13e	Solar Plasma (IMP H & J)	415B 53	416B 45	417B 35	418B 25	419B 32	419B 47					
A.13f	Solar Wind (Pioneer 12 (Venus))					414A 38	415A 39	416A 35	417A 31	418A 32	419A 32	420A 36
A.17	Interplanetary Magnetic Field (Pioneer 8)	----	----	----	----	----	----	----	----	----	----	----
A.17	Interplanetary Magnetic Field (Pioneer 9)	----	----	412A 29	----	414A 37	----	----	----	----	----	----
A.17c	Inferred IP Magnetic Field	410A 40	411A 38	412A 32	413A 40	415A 42	415A 42	417A 34	417A 34	418A 36	419A 36	420A 38
A.18	Interplanetary Electric Field (Pioneer 8)	----	----	----	----	----	----	----	----	----	----	----
A.18	Interplanetary Electric Field (Pioneer 9)	----	----	412A 29	----	414A 37	----	----	----	----	----	----
B.	IONOSPHERIC (AND RADIO WAVE PROPAGATION) PHENOMENA											
B.52	Graphs of Transmission Frequency Range	411A158	412A162	413A160	414A172	415A162	416A166	417A166	418A166	419A168	420A166	
B.53	Quality Figures Based on Frequency Ranges	411A160	412A161	413A159	414A174	415A161	416A165	417A165	418A165	419A167	420A168	
C.	FLARE-ASSOCIATED EVENTS											
C.1a	Optical Observations Flares	410A 14	411A 14	412A 12	413A 14	414A 14	415A 14	416A 14	417A 12	418A 14	419A 14	420A 14
C.1ba	Optical Observations Flares (Standardized Data)	415B 6	416B 8	417B 6	419B 64	420B 82						
C.1d	Flare Patrol Observations	410A 22	411A 19	412A 17	413A 20	414A 23	415A 24	416A 24	417A 20	418A 23	419A 24	420A 23
C.1d	Flare Patrol Observations	415B 32	416B 30	417B 25	419B 93	420B120						
C.1e	Flare Indices (by day)	415B 31	416B 29	417B 24	419B 92	420B119						
C.1f	Flare Indices (by Region)	416B 70	417B 58	419B 94	420B121							
C.3	Solar Radio Waves - Outstanding Occurrences	415B 33	416B 31	417B 26	418B 6	419B 8	420B 8					
	Solar Radio Waves - Fixed Frequencies - Selected	410A 26	411A 25	412A 23	413A 26	414A 29	415A 30	416A 30	417A 26	418A 28	419A 27	420A 29
C.3t	43.25, 80 and 160 MHz Selected Bursts (Culgoora)	411A144	412A148	413A147	414A159	415A147						
C.4a	Solar Radio Spectral Obs. (Port Davis)	411A135	414B 53	414B 55	414A142	417B 60	417B 62	417A138	420B 72	420B 75	420A139	
C.4d	Solar Radio Spectral Obs. (Culgoora)	412B 60	412A134	413A134	414A142	415A129	416A134	417A138	418A137	419A142	420A139	
C.4e	Solar Radio Spectral Obs. (Weissenau)	411A135	412A134	413A134	414A142	415A129	416A134	417A138	418A137	419A142	420A139	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	411A135	412A134	413A134	414A142	415A129	416A134	417A138	418A137	419A142	420A139	
C.4h	Solar Radio Spectral Obs. (Dwingeloo)	411A135		413A134	414A142	415A129	416A134	417A138	418A137	419A142	----	
C.4i	Solar Radio Spectral Obs. (Durnten)	411A135	412A134	413A134	415B 70	415A129	416A134	417A138	418A137	419A142		
C.4j	Solar Radio Spectral Obs. (Manila)	411A135	412A134	413A134	414A142	415A129	416A134	417A138	418A137	419A142	420A139	
C.5e	Solar X-ray (SMS/GOES) (graphs)	416B 96	416B 52	417B 41	418B 31	419B 33	420B 53					
C.6	Sudden Ionospheric Disturbances	411A117	412A115	413A117	414A122	415A126	416A117	417A119	418A119	419A124	420A122	
D.	GEOMAGNETIC AND MAGNETOSPHERIC PHENOMENA											
D.1a	Geomagnetic Indices Kp, Kn, Ks, Km, Ap, aa, Cp	411A151	413B 82	413A152	414A164	415A155	416A158	417A158	418A158	419A160	420A160	
D.1ba	27-day Chart of Kp Indices	411A153	412A157	413A154	414A166	415A157	416A160	417A160	418A160	419A162	420A162	
D.1c	27-day Chart of C9	414A167	414A167	414A167	414A167							
D.1d	Principal Magnetic Storms	411A156	412A160	413A157	414A170	415A158	416A163	417A163	418A163	419A165	420A165	
D.1e	Reduced Magnetograms											
D.1f	Sudden Commencement and Solar Flare Effects	411A157	412A161	413A158	414A171	415A160	416A164	418B 76	419B 63	419A166		
D.1g	Equatorial Indices Dst	411A155	412A159	413A156	414A169	416B 90	416A162	417A162	418A162	419A164	420A164	
D.1h	Geomagnetic Substorm Log (Boulder)	410A 43	411A 41	412A 36	413A 43	414A 43	415A 46	416A 43	417A 38	418A 39	419A 39	420A 41
F.	COSMIC RAYS											
F.1a	Cosmic Ray Neutron Counts (Deep River)	411A150	412A154	414B 57	414A161	415A154	416A151	417A151	418A151	419A153	420A155	
F.1b	Cosmic Ray Neutron Counts (Climax)		415B 72	415B 72	415B 72	416B 88	416A151	417A151	418A151	419A153	420A155	
F.1e	Cosmic Ray Neutron Counts (Alert)	411A150	412A154	414B 57	414A161	415A154	416A151	417A151	418A151	420B 78	420A155	
F.1f	Cosmic Ray Neutron Counts (Calgary)											
F.1h	Cosmic Ray Neutron Counts (Thule)	419B 62	419B 62	419B 62	419B 62	419B 62	419B 62	419B 62	419B 62	419A153	420A155	
F.1i	Cosmic Ray Neutron Counts (Kiel)	411A150	412A154	413A149	418B 74	415A154	416A151	417A151	418A151	419A153	420A155	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	411A150	412A154	413A149	418B 74	415A154	416A151	417A151	418A151	419A153	420A155	
F.1k	Cosmic Ray Neutron Counts (Kula)											
F.1l	Cosmic Ray Neutron Counts (Huancayo)						417B 67	418B 72	419B 58	420B 79	420A155	
H.	MISCELLANEOUS											
H.60	IUWDS Alert Decisions	410A 5	411A 4	412A 4	413A 5	414A 4	415A 5	416A 4	417A 4	418A 5	419A 5	420A 5
H.62	Abbreviated Calendar Record	416B 62	417B 50	418B 40	419B 42	420B 58						

Notes:

"411A 46" listed under 1978 Sep means that the sunspot drawings for September 1978 were contained in *Solar-Geophysical Data* Number 411 - Part I, beginning on page 46.

A = Part I, B = Part II.

---- = no data available.
blank = data not yet received.

SGD 420 Part II (Comprehensive)

FEBRUARY 1979 DATA

Contents

	Page
Active Regions	4-5
Synoptic Solar Maps	6-7
Solar Flares (Data not available at time of publication)	
Hα Solar Flares (Standardized Data)	
Daily Flare Indices	
Intervals of No Flare Patrol Observation	
Solar Radio Emission	
Outstanding Occurrences (Fixed Frequencies)	8-46
Energetic Solar Particles and Plasma	
IMP 8 Solar Wind Plasma	47
IMP 8 Electrons	48
IMP 8 Low, Intermediate and High Energy Protons	49-51
IMP 8 Alpha Particles	52
Solar X-ray Radiation	
SMS-GOES	53-54

ACTIVE REGIONS

CARRINGTON ROTATION 1677

(January 7 to February 3, 1979)

Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1676	Activity at West Limb
1	9°N	348°	+6	6			decreasing
2	16 S	347	>6	1	x		decreasing
3	25 N	342	>6	3			decreasing
4	26 S	337	>6	1	x		dispersed
5	23 N	335	>6	1	x	(3)	decreasing
6	18 S	330	>6	5		(4+5)	stable
7	12 S	328	-3	4			increasing
8	19 N	316	>6	1	x		dispersed
9	18 N	303	>6	3			decreasing
10	22 N	290	>6	1	x	(15)	decreasing
11	16 N	289	>6	5			decreasing
12	10 S	286	>6	1	x		decreasing
13	22 S	280	>6	3			decreasing
14	12 N	278	-2	2			decreasing
15	27 S	273	>6	1	x	(16)	decreasing
16	14 N	271	0	2			decreasing
17	27 N	269	>6	1	x		dispersed
18	27 N	264	+5	2			dispersed
19	21 N	261	+5	1	x		disappeared
20	26 S	261	>6	2			dispersed
21	16 S	256	>6	1	x		decreasing
22	22 S	253	+5	5			decreasing
23	29 S	251	-3	1	x		stable
24	24 S	235	>6	1	x		decreasing
25	14 N	230	-3	1	x		stable
26	21 N	227	+1	2			decreasing
27	10 N	216	>6	4		(21)	decreasing
28	22 S	214	0	3			decreasing
29	22 N	209	+6	1	x		dispersed
30	29 S	207	>6	1	x		dispersed
31	17 S	193	+6	1	x		disappeared
32	20 N	180	>6	3			decreasing
33	34 S	177	+1	2			decreasing
34	18 N	173	>6	5			decreasing
35	10 N	171	+1	1	x		stable
36	14 S	169	>6	3			decreasing
37	8 N	167	-3	2			decreasing
38	8 N	156	+3	2			decreasing
39	18 S	155	+6	2			dispersed
40	28 S	150	-1	2			dispersed
41	12 S	145	>6	4			decreasing
42	26 S	142	+5	2			decreasing
43	18 S	141	>6	1	x		disappeared
44	10 N	137	-4	2			stable
45	15 N	136	>6	5			stable
46	12 N	130	>6	1	x	(33+34)	decreasing
47	17 N	115	-5	2			(?)
48	21 N	114	>6	4			decreasing
49	15 S	104	>6	5			decreasing
50	30 S	94	>6	1	x		dispersed
51	27 S	90	>6	4			decreasing
52	24 N	80	+3	2			disappeared
53	28 S	73	>6	1	x		dispersed
54	22 S	72	>6	3		(46)	decreasing
55	31 S	60	>6	1	x	(47)	dispersed
56	26 N	58	>6	1	x		dispersed
57	14 S	53	>6	1	x	(51)	decreasing
58	16 S	41	>6	1	x	(51)	dispersed
59	28 S	37	>6	1	x		dispersed
60	25 S	16	>6	1	x	(55)	dispersed
61	17 N	5	>6	2			decreasing

ACTIVE REGIONS

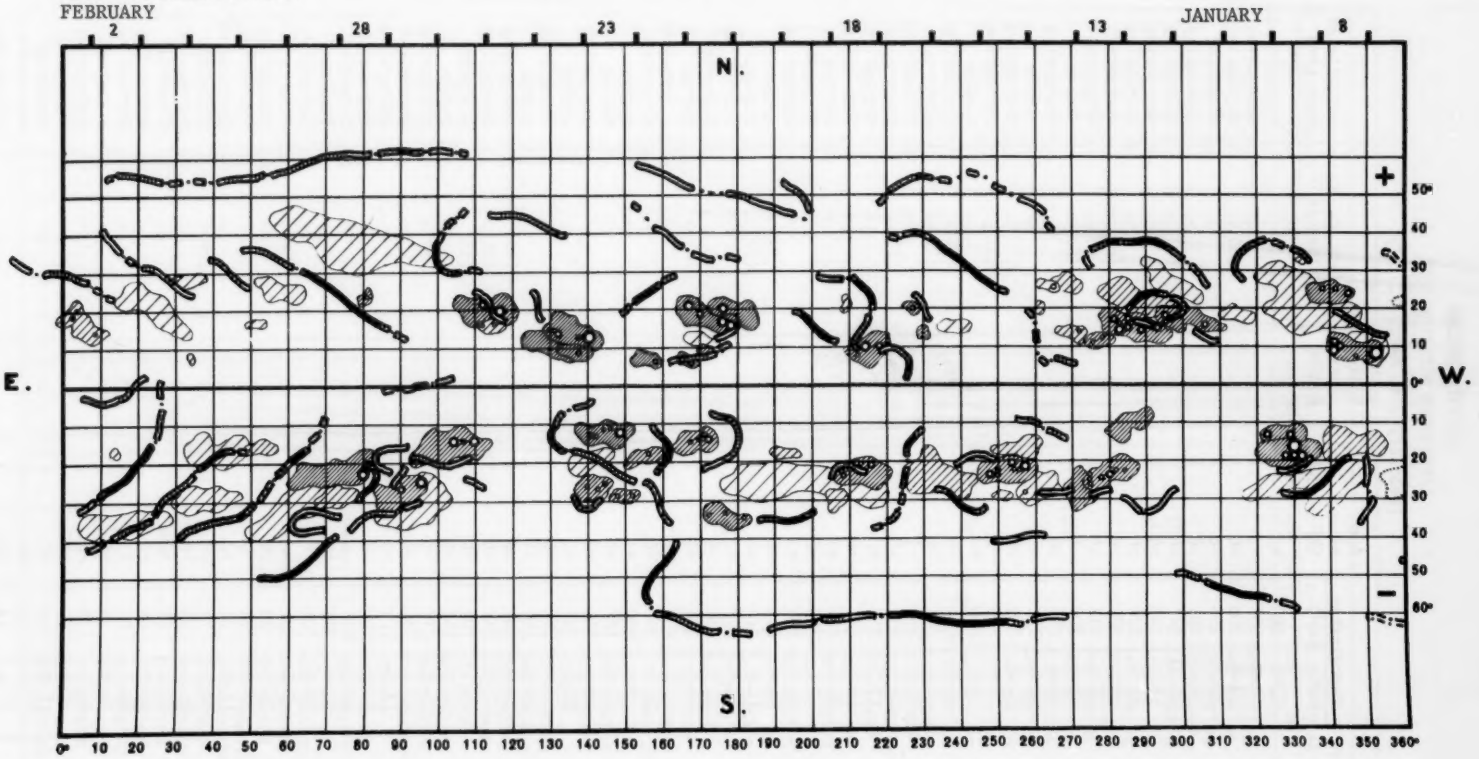
CARRINGTON ROTATION 1678

(February 3 to March 2, 1979)

Region No.	Coordinates Lat.	Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1677	Activity at West Limb
1	12°N	360°	+4	2			disappeared
2	7 N	357	+3	2			decreasing
3	10 N	356	>6	4		(1)	decreasing
4	22 N	356	>6	2			dispersed
5	14 N	351	>6	2			decreasing
6	19 S	347	>6	1	x	(2)	decreasing
7	14 S	340	>6	6			decreasing
8	22 S	330	>6	1	x		decreasing
9	16 S	325	>6	2	x	(6)	decreasing
10	16 N	318	>6	1	x	(8)	dispersed
11	16 N	300	-6	1	x	(9)	stable
12	36 N	295	>6	1	x		decreasing
13	14 N	292	+1	3			stable
14	20 S	288	>6	3			decreasing
15	16 N	285	>6	3		(11)	decreasing
16	19 S	275	+4	3			stable
17	27 N	273	>6	1	x	(10)	decreasing
18	31 S	264	>6	1	x	(15)	dispersed
19	24 N	258	-1	1	x		disappeared
20	25 S	250	>6	1	x	(22)	decreasing
21	13 S	241	+2	1	x		decreasing
22	19 S	237	>6	3			decreasing
23	36 S	224	+5	2			decreasing
24	9 S	218	+3	1	x		dispersed
25	35 S	218	+3	2			decreasing
26	25 S	215	>6	1	x	(28)	dispersed
27	11 N	214	>6	2		(27)	dispersed
28	20 N	207	+2	3			decreasing
29	25 S	204	>6	1	x		dispersed
30	24 S	201	+1	2			decreasing
31	17 S	200	>6	x			disappeared
32	28 N	187	>6	1	x		dispersed
33	8 N	180	+1	4			stable
34	17 N	177	>6	5			stable
35	15 S	175	+4	2			decreasing
36	22 S	167	-3	1	x		stable
37	2 N	166	>6	2			decreasing
38	16 S	165	-1	1	x		stable
39	20 N	164	>6	2		(34)	decreasing
40	7 N	154	>6	1	x	(38)	decreasing
41	14 S	150	>6	1	x	(41)	dispersed
42	17 N	150	>6	7			stable
43	15 N	139	>6	3		(45)	decreasing
44	27 S	134	>6	3			decreasing
45	13 S	113	>6	1	x		decreasing
46	23 N	111	>6	1	x		decreasing
47	19 S	100	>6	1	x		dispersed
48	26 N	98	>6	1	x		dispersed
49	19 S	94	0	2			decreasing
50	29 S	87	>6	1	x	(51)	dispersed
51	25 S	83	>6	2			decreasing
52	33 S	75	0	3			decreasing
53	12 N	74	+2	1	x		disappeared
54	23 S	73	>6	1	x	(54)	dispersed
55	25 S	70	>6	2			decreasing
56	14 S	63	>6	1	x		dispersed
57	37 N	58	>6	3			decreasing
58	19 S	50	+1	2			decreasing
59	10 N	15	>6	1	x		dispersed
60	33 S	13	-2	2			decreasing
61	23 N	29	>6	1	x		decreasing
62	11 N	19	>6	1	x		dispersed
63	22 S	17	>6	2			decreasing
64	17 S	14	-2	3			increasing
65	10 N	7	>6	1	x	(61) (3)	decreasing

SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1677
JANUARY 7 TO FEBRUARY 3, 1979

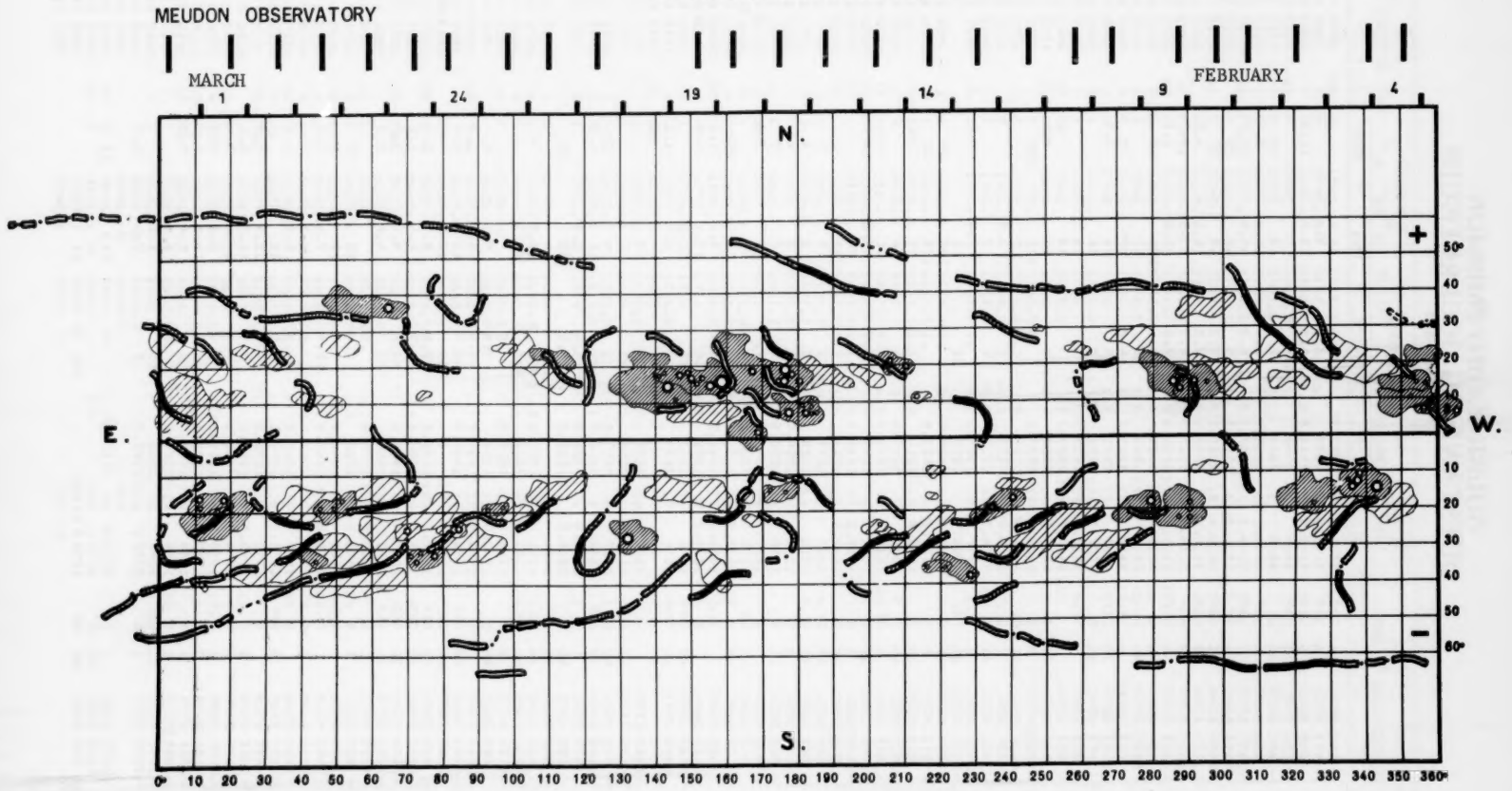
MEUDON OBSERVATORY



SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1678

FEBRUARY 3 TO MARCH 2, 1979



7
Feb 79

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
1	3000	BERL	4	S/F	0804	0807.8	6.6	54			
	1470	BERL	4	S/F	0805.5	0809	8.5	9.8			
	2695	MANI	4	S/F	0805.9	0808.5	4.6	53.7	17.9		
	9500	BERL	20	GRF	0805	0843	355 D	10			
	2650	DWIN	45	C	0805	0808	6	60	40		
	606	MANI	4	S/F	0806.1	0809.1	8.7	16.2	5.4		
	2695	ATHN	2	GRF	0806.1	0807.8	6.8	59.5	35.7		
	2950	GORK	4	SF	0806.3	0808.3	5	58	29		
	4995	ATHN	2	GRF	0806.4	0807.1	7.2	45	27		
	8800	ATHN	2	GRF	0806.4	0808.9	7.2	14.1	8.5		
	1415	ATHN	2	GRF	0806.5	0807.8	6.5	22.9	13.7		
	1415	MANI	4	S/F	0806.7	0808.9	3.8	20.5	6.8		
	930	BORD	46	C	0806	0809.1	6	131	10		
	6100	KISV	24	B	0806	.846	62	11			
	650	GORK	4	SF	0807	0809.5	4.6	7	2		
	9100	GORK	20	GRF	0807	0821	46	12	5.5		
	950	GORK	46	C	0807.1	0808	5	22			
	950	GORK			0807.1	0810.2		29			
	950	GORK			0807.9	0809.2		30			
	608	UCCL	46	C	0807.6	0809	3	15	8		
	234	POTS	8	S	0827	0827.1	.3	600	200		
	1470	BERL	41	F	0906.4	0907	5.6	12			
	3000	BERL	3	S	0906.5	0907	1	9.8			
	600	UCCL	45	C	0906.5	0910	6	9			
	2950	GORK	1	S	0907	0907.5	.7	7.4	3.7		
	6100	KISV	26	FAL	0908	0908	82	10			
	234	POTS	45	C	0925.3	0925.4	.5	190	30		
	113	POTS	8	S	1002.6	1002.6	.1	130	40		
	930	BORD	45	C	1013.8	1014	1.2	22	2		
	600	UCCL	45	C	1015	1017.5	8	6			
	650	GORK	4	SF	1039	1039.2	.5	11	4		
	1415	ATHN	14	C	1147	1148	3.7	93.2	28		
	1470	BERL	3	S	1147.5	1148.4	1.2	59			
	930	BORD	45	C	1147.5	1148	1.5	20	2		
	600	UCCL	45	C	1207	1208	2	7	3		
	600	UCCL	45	C	1219	1220	3	8	3		
	600	UCCL	1	S	1255	1255.5	1	8	4		
	600	UCCL	1	S	1256	1256.5	1	7	3		
	9400	HUAN		S	1257.7	1343.8	107.7	18	2.6		0
	245	SGMR	43	NS	1358	1800.8	474 D	52			3
	.28	HARS	45	C	1432.5	1432.7	.5	75	25		
	9400	HUAN		S	1450.7	1502.5	58.8	8.2	3.8		R
	9400	HUAN		S	1623.2	1856	56	13.1	5.5		R
	2800	OTTA	20	GRF	1848	1850	20	1.8			
	2800	OTTA	20	GRF	2038	2033	20	2.2	1.1		
2	6100	KISV			0800	0926		3			
	6100	KISV	21	GRF	0808	0856	40	5			
	600	UCCL	45	C	0817	0817.5	1	4	2		
	9100	GORK	20	GRF	0840.7	0856.2	24	11	4.5		
	1470	BERL	1	S	0928.4	0928.9	1.6	1.9			
	228	HARS	45	C	1008.5	1008.7	.5	90	35		
	260	ONDR	43	NS	1009		226	44			
	410	SGMR	44	NS	1201 E	1552.3	592 D	10.2			
	245	SGMR	44	NS	1201 E	1302	592 D	85.3			
	9100	ARCE	3	S	1018.4	1018.7	.8				
	600	UCCL	45	C	1353.5	1354	1.5	9	4		
	9400	HUAN		S	1410.4	1433.2	55.4	16.3	2.7		R
	4995	SGMR	20	GRF	1420.1	1432.1	32.3	18	5.4		
	7000	SAOP	20	GRF	1424		35	12.8			14R
	606	SGMR	20	GRF	1427.2	1429.7	20.6	8.7	2.6		
	8800	SGMR	20	GRF	1426.2	1436.2	22.3	4.6	1.4		
	2695	SGMR	20	GRF	1429.4	1444.5	25.6	9.4	2.8		
	2800	OTTA	20	GRF	1430	1435	30	4.6	2.3		
	9100	ARCE	1	S	1433.5	1433.6	.6				
	600	UCCL	1	S	1501.5	1502	1.5	15	7		
	600	UCCL	8	S	1541	1541.5	.6	10	5		
	9400	HUAN		S	1605.8	1608.6	5.8	7.4	3.8		0
	7000	SAOP	3	S	1606	1608.4	7.6	12.8			0
	9400	HUAN		S	1637	1645.8	14.3	5.9	3.4		0
	7000	SAOP	4	S/F	1758.4	1800.2	2.8	22			0
	9400	HUAN		S	1759	1800.1	2.8	20.7	9.5		R
	8800	SGMR	3	S	1759.3	1800.1	2.7	11.3	3.4		
	4995	SGMR	3	S	1759.3	1800.1	2.7	11.2	3.4		
	2695	SGMR	1	S	1759.3	1800.1	2.7	6.1	1.8		
	15400	SGMR	3	S	1759.5	1800.2	5.5	14.2	4.3		
	2800	OTTA	1	S	1759	1800	2	5.4	2.9		
	2800	OTTA	8	S	2024	2024.2	.5	5.4			
	2695	PENT	21	GRF	2050	2152	158 D	5.8			
	2695	PENT	1	S	2302	2302.7	2	3.4	1.7		
3	9100	GORK	1	S	0702.3	0702.7	.8	24	12		
	6100	KISV	25	R	0705			4			
	260	ONDR	44	NS	0754 E		426 D	47			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	245	SGMR	44 NS	1200 E	1823.6	594 D	11.4			
	9100	ARCE	3 S	0846.6	0847	1				
	9100	GORK	2 SF	0850.5	0853.7	5.8	7	2.5		
	6100	KISV	40 F	0852	0853.7	6	3			
	6100	KISV	1 S	0953	0953.5	3	2			
	6100	KISV	1 S	1023	1025	7	2			
	930	BORD	41 F	1108.5	1108.6	.5	29	2		
	9400	HUAN	S	1206.8	1248.2	60	6.6	3.9		D
	930	BORD	45 C	1240.8	1240.9	.8	18	2		
	9400	HUAN	S	1329.8	1345	27.6	4.9	2.4		L
	9100	ARCE	40 F	1332.2	1332.6	5.6				
	228	HARS	45 C	1341.5	1341.7	.5	150	50		
	410	SGMR	6 S	1342	1342.4	1.2	53.4	16		
	245	SGMR	6 S	1342	1342.3	2.1	136	40.8		
	606	SGMR	3 S	1405	1407.4	8	26.4	10.6		
	600	UCCL	1 S	1423	1424	1.8	10	6		
	260	ONDR	8 S	1447.3	1447.3	.3	193			
	245	SGMR	6 S	1447.8	1448	.4	22.5	6.8		
	410	SGMR	48 GB	1448	1448.1	.2	782	235		
	2800	OTTA	20 GRF	1600	1645	170	4	2		
	7000	SAOP	1 S	1755.4	1755.8		10			80L
	2800	OTTA	8 S	1755.6	1755.6	.5	3.2	1.6		
	9400	HUAN	S	1811.5	1839.8	44.9	5.7	2.8		L
	606	SGMR	3 S	1947.4	1957.7	26.6	40.7	16.1		
	245	SGMR	6 S	1953.8	1954.2	4.2	8.5	2.5		
4	1470	BERL	1 S	0826.5	0827.9	2	3.2			
	3000	BERL	3 S	0826.5	0827.9	3	8.2			
	9500	BERL	4 S/F	0826.5	0827.7	4.5	13			
	3100	CRIM	1 S	0826.5	0828	5	5	2		
	10400	BERN	22 GRF	0826.6	0827.7	4.5	4	10		
	8400	BERN	22 GRF	0826.6	0827.7	4.5	6	15		
	8400	BERN	22	0826.6	0827.7	4.5	15			OPR
	10400	BERN	22	0826.6	0827.7	4.5	10			OPR
	2950	GORK	1 S	0826.8	0827.7	2.8	8.9	4.5		
	9100	GORK	1 S	0826.8	0827.7	2.7	14	6.5		
	6100	KISV		0826	0828.5		9			
	6100	KISV	45 C	0826	0827.7	6	10			
	15000	KISV	2 S/F	0827	0828	4	4			
	536	ONDR	3 S	1315.3	1315.3	.2	26			
	260	ONDR	4 S/F	1354.3	1355.3	2	30	18		
	536	ONDR	45 C	1354	1354.5	2.5	13	2.2		
	4995	BOUL	1 S	1712	1713	2.5	8	3		
	1420	BOUL	3 S	1724.5E	1725	1 D	21	7		
	2800	OTTA	3 S	1724	1724.9	2	10.2	2.6		
	2800	OTTA	21 GRF	1823	1855	95	7	3.3		
	9400	HUAN	S	1826.1	1828.5	8.7	10.2	6.8		R
	2800	OTTA	1 S	1826.8	1828	2	4	2		
	2800	OTTA	2 S/F	1837.2	1837.5	1	6	3		
	2800	OTTA	8 S	1849.5	1849.5	.1	2			
	2800	OTTA	1 S	1901.5	1903	4	4	2		
5	6100	KISV	8 S	0557	0558	2	3			
	2695	ATHN	4 S/F	0632.7	0640.7	11.7	86	25.8		
	1415	MANI	4 S/F	0633.1	0640.8	7.3	25.4	10.9		
	2950	GORK	46 C	0636 U	0638.5	7 E	37			
	2950	GORK		0636 U	0640.6		81			
	950	GORK	45 C	0637.4	0640.2	6.1	32			
	950	GORK		0637.4	0640.7		32			
	5730	IRKU		0637.5	0640.5		234			L
	5730	IRKU	45 C	0637.5	0638.4	6	103			L
	650	GORK		0637.7	0640.6	8.8	49	8		
	9100	GORK	29 PBI	0637.7	0644	32	23	8.5		
	9100	GORK		0637.7	0640.5		164 D			
	9100	GORK	46 C	0637.7	0638.4	6.2	164 D			
	1415	ATHN	3 S	0637.7	0640.3	6.1	45	14		
	2695	MANI	4 S/F	0637.7	0640.8	7.3	63.6	21.2		
	8800	ATHN	5 GB	0637.8	0640.7	7.7	735.5	220.6		
	4995	ATHN	4 S/F	0637.8	0640.7	8.9	264	79		
	500	HIRA	46 C	0637.8	0640.6	4	130	40		0
	6100	KISV	49 GB	0637	0641	8	196			
	6100	KISV	29 PBI	0637	0645	35	14			
	3100	CRIM		0638	0641		58	19		
	3100	CRIM	45 C	0638	0639	7	16	5		
	606	MANI	4 S/F	0638	0640.8	5.2	71	10.6		
	8800	MANI	47 GB	0638	0640.8	5.5	675	147		I
	15000	KISV	49 GB	0638	0641	67	805			
	200	HIRA	41 F	0639	0642.3	11	3000	200		0
	35000	NAGO	5 S	0639	0641	7	58			
	200	GORK		0641 E	0644.9		980 D			
	200	GORK		0641 E	0643.5		900			
	200	GORK	45 C	0641 E	0642 U	4.5E	80 D			
	100	GORK	45 C	0642.2	0642 U	3.5	290 D			
	100	GORK		0642.2	0645 U		3400 D			
	100	GORK		0642.2	0644 U		290 D			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

Notice: This material may be protected by copyright law (Title 17 U.S. Code).

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
5	5730	IRKU	29 PBI	0643		16	26	13		L
	127	TORN	7 C	0643.6	0644	1.9	250			SUNRISE
	260	CNDR	43 NS	0803		385 D	26			
	245	SGMR	44 NS	1158 E	2038.1	579 D	60			3G
	228	HARS	45 C	0901	0902.5	4	200	70		
	260	ONDR	46 C	0901.5	0901.5	4	168	62		
	234	POTS	42 SER	0901.8	0902	2.8	875	20		
	113	POTS	42 SER	0901.8	0903.5	1.7	420	15		
	202	IZMI	7 C	0906.8	0906.8	.5	230	130		
	3100	GRIM	1 S	1012.5	1012.7	.5	10	3		
	6100	KISV	8 S	1044.3	1045	1	4			
	3100	GRIM	1 S	1055	1056.5	7	8	3		
	6100	KISV	20 GRF	1055	1056.3	25	4			
	2950	GORK	1 S	1133.7	1136.6	3.9	19			
	1470	BERL	8 S	1137.7	1138.2	.9	30			
	7000	SADP	45 C	1138	1147.4	4	45			52L
	650	GORK	3 S	1143.1	1143.3	.6	66	11		
	3000	BERL	4 S/F	1143.5	1146	6.5	39			
	9500	BERL	29	1143.5	1147	22	21			
	1470	BERL	4 S/F	1143.5	1146	7.5	11			
	3100	GRIM	3 S	1144	1148.5	6	22	7		
	2950	GORK	4 SF	1144.1	1146.1	6.1	77	36		
	200	GORK	2 SF	1144.5	1146	3.5	11			
	10400	BERN	22 GRF	1144.5	1147.3	5.5	7	20		
	8400	BERN	22 GRF	1144.5	1147.3	5.5	11	29		
	10400	BERN	22	1144.5	1147.3	5.5	20			
	8400	BERN	22	1144.5	1147.3	5.5	29			7L
	6100	KISV	45 C	1144	1147.5	6	31			
	9400	HUAN	S	1145	1147.1	5.3	20.4	9.5		L
	4995	ATHN	13 GRF	1145	1146.8	4.6	43.7	26.2		
	2695	ATHN	2 GRF	1145	1146.8	3.5	29	17.4		
	4995	ATHN	13 GRF	1145	1147.3		46.2	28		
	8800	ATHN	2 GRF	1145.2	1147.3	4.3	32.6	19.6		
	1415	ATHN	2 GRF	1145.2	1146.8	3.4	13.6	8.2		
	100	GORK	4 SF	1145.2	1146	2.8	68			
	9100	GORK	2 SF	1145.5	1147.3	3.7	23	11		
	33	UPIC	45 C	1145.5	1146.3	1.9				
	29	UPIC	45 C	1145.5	1146.4	2.8				
	536	ONDR	2 S/F	1145	1146.2	3.5	16	2		
	15000	KISV	4 S/F	1145	1147	5	14			
	2650	DWIN	45 C	1145	1146	6	30	20		
	10715	DWIN	3 S	1145	1147	3	10	7		
	600	UCCL	45 C	1146	1146.2	2	15	3		
	200	GORK		1229.9	1232.7		55			
	200	GORK	46 C	1229.9	1231.5	4	35			
	536	ONDR	2 S/F	1236.3	1236.8	2	18	2		
	29	UPIC	45 C	1236.7	1237.5	1.6				
	650	GORK	1 S	1237	1237.4	1.1	6	3		
	950	GORK	1 S	1237	1237.4	1.3	15			
	3000	BERL	1 S	1237	1237.3	2	4.1			
	100	GORK		1237.1	1237.6		15			
	100	GORK	45 C	1237.1	1237.2	.8	25			
	1470	BERL	8 S	1237.2	1237.5	.8	15			
	33	UPIC	45 C	1237.3	1237.9	1.5				
	600	UCCL	45 C	1237	1237	1.2	12	5		
	930	BORD	45 C	1237	1237.3	1	25	3		
	9100	ARCE	3 S	1339.9	1340.2	1.6				
	9100	ARCE	1 S	1342.1	1342.5	.9				
	600	UCCL	45 C	1349	1350.3	2	6			
	930	BORD	8 S	1447.8	1447.8	.1	27	1		
	2800	OTTA	21 GRF	1725	1850	155	5.6	2.8		
	245	SGMR	6 S	1816.8	1817.3	2.6	54.7	16.4		
	410	SGMR	6 S	1816.9	1818.9	3.8	11.9	3.6		
	606	SGMR	3 S	1907.7	1910.4	4.3	11.8	3.5		5
	245	SGMR	7 S	1908.2	1908.6	1.3	339.2	101.7		5
	2800	OTTA	8 S	1908.2	1908.5	.5	7.2			
	1415	SGMR	1 S	1908.3	1908.6	2.6	6.2	1.9		5
	410	SGMR	6 S	1908.4	1908.4	.5	20.1	6		5
	2800	OTTA	240AR	2014	2024	10	3.4			
	2800	OTTA	1 S	2019	2021	3	4	2		
	35000	SGMR	47 GB	2111.9	2117.4	15.1	4035	1211		
	15400	SGMR	47 GB	2117.1	2121.1	26	1608	483		
	9400	HUAN	C	2117.2	2121.2	5.7	715.7	305.3		L
	410	SGMR	49 GB	2118.8	2133		42			
	410	SGMR	49 GB	2118.8	2020.5	18.5	1125	337		
	606	SGMR	47 GB	2119	2119.3	4.6	884	265		
	1415	SGMR	45 C	2119.2	2130.6		290			
	1415	SGMR	45 C	2119.2	2119.9	18	250	87		
	245	SGMR	49 GB	2119.9	2125.8	18.7	1909	573		
	245	SGMR	49 GB	2119.9	2133		300			
	1420	BOUL	45 C	2119 E	2119.5	3.5D	64	21		
	2800	OTTA	4 S/F	2119	2121	8	66	21.4		
	4995	BOUL	4 SF	2119	2123	8.5	138	46		
	2695	BOUL	4 SF	2120.5E	2122	3.5D	84	28		
	9400	HUAN	PBI	2123.7	2123.7	38	77.3	12.8		L

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	2695	BOUL	29	PBI	2124	2124	39 U	26	9		
	2800	OTTA	30	PBI	2127	2127	35	4.8	2.4		
	4995	BOUL	4	SF	2129.5	2131.5	3.5	179	60		
	9400	HUAN		S	2130.2	2132	3.1	136.1	43.6		L
	1420	BOUL	45	C	2130 E	2131	3 D	111	37		
	2800	OTTA	4	S/F	2130	2132.2	6	80	21.6		
	2695	BOUL	4	SF	2131 E	2133	3 D	108	36		
	4995	BOUL	29	PBI	2133	2133	31	22	7		
	1415	SGMR	3	S	2143.2	2149.2	13.8D	101	30.3		
	1420	BOUL	40	F	2143.5E	2149	10.5D	26	9		
	410	SGMR	7	S	2144	2144.1	13 D	101	30.3		
	2695	PENT	46F	C	2148.2	2149.3	3.8	24	10.9		
	245	SGMR	48	GB	2148.2	2149.4	8.8D	1616	48.5		
	9400	HUAN		C	2148.6	2149.3	3.8	21.8	9.7		L
	9400	HUAN			2148.6	2151		18.5			
	4995	BOUL	45	C	2148	2149	3 U	49	16		
	2695	BOUL	45	C	2149.5E	2151.5	2.5D	40	13		
	2695	PENT	29	PBI	2152	2152	4	4	2		
	9400	HUAN		S	2159.1	2159.6	.8	10.1	7.9		Q
	4995	BOUL	8	S	2305.5	2306	2.5	38	13		
6	2695	MANI	1	S	0240.8	0241.4	2.5	8.2	2.7		
	200	HIRA	41	F	0241	0241.5	5	4000	100		SL
	100	HIRA	46	C	0241	0241.8	2.5	5000	1500		Q
	1415	MANI	1	S	0241.1	0241.7	1.1	8.3	2.8		
	606	MANI	1	S	0241.1	0245.1	5.9	5.9	2		
	100	HIRA	41	F	0357	0400	3	950			WL
	200	HIRA	41	F	0357	0359.7	4	400			Q
	2695	MANI	4	S/F	0444.4	0445.3	2.3	11.4	3.8		IG
	1415	MANI	4	S/F	0444.5	0445.3	1.5	12	4		
	200	HIRA	46	C	0444.5	0445	2	2000	150		Q
	100	HIRA	46	C	0444.5	0445.2	1.5	5000	1000		WL
	5730	IRKU	2	S	0444.5	0445.1	1	39	19		L
	100	GORK			0622.4	0624		25			
	100	GORK	41	F	0622.4	0622.6	1.8	40			
	100	GORK			0637.3	0641 U		45 D			
	100	GORK			0637.3	0640.3U		40 D			
	100	GORK	41	F	0637.3	0637.7	4.6	40 D			
	100	GORK	40	F	0708.3	0708.6	1.1	45 D			
	3100	CRIM	1	S	0721	0723	6	5	2		
	6100	KISV	3	S	0721	0723	3	4			
	6100	KISV	2	S/F	0740	0741	5	7			
	100	GORK			0749.6	0752.6		40			
	100	GORK			0749.6	0750.6		25			
	100	GORK	41	F	0749.6	0749.8	3.8	20			
	3100	CRIM	25	R	0802	0823		11			
	4995	ATHN	4	S/F	0806.8	0815.5	11.8	51.9	15.6		
	100	GORK	45	C	0809	0809.7	15	55 D			
	100	GORK			0809	0823.1		8			
	100	GORK			0809	0816.4		20			
	100	GORK			0809	0810.2		55 D			
	260	ONDR	44	NS	0810 E		355 D	27			
	245	SGMR	44	NS	1157 E	1255.4	601 D	179			3G
	410	SGMR	44	NS	1157 E	1853.2	601 D	33.6			3G
	1415	ATHN	3	S	0810.2	0815.8	10.4	28.8	8.6		
	2695	ATHN	3	S	0810.3	0815.7	8.3	16.3	4.9		
	8800	ATHN	3	S	0811.2	0811.2	7.1	42.7	12.8		
	4995	ATHN	2	GRF	0813.6	0823.2	22.6	18.9	11.3		
	15000	KISV	32	ABS	0815	0817	5	6			
	8800	ATHN	2	GRF	0816.2	0822.8	17.4	32	19.2		
	1415	ATHN	2	GRF	0818.3	0823.3	.7	9.6	5.8		
	2695	ATHN	2	GRF	0820.2	0824.3	7.1	6.5	3.9		
	15000	KISV	45	C	0820	0825	10	10			
	9500	BERL	20	GRF	0821.5	0824.5	8.5	12			
	9100	ARCE	21	GRF	0821.8	0825.9	14				
	3100	CRIM	1	S	0822	0824.5	5	8	3		
	3000	BERL	3	S	0822	0824.5	4	9.3			
	1470	BERL	1	S	0822.5	0823.2	2.5	2.9			
	9100	GORK	2	SF	0822.6	0823	4.9	10	4		
	650	GORK	4	SF	0822.6	0822.8	2.6	38	5		
	950	GORK			0822.6	0824		5			
	950	GORK	45	C	0822.6	0823.1	2.7	4			
	200	GORK	8	S	0822.7	0822.9	1.2	80			
	600	UCCL	2	S	0822	0822.5	1.5	55	20		
	6100	KISV			0822	0824.7		10			
	6100	KISV	45	C	0822	0823	8	10			
	234	POTS	5	S	0823	0823.2	.3	210	35		
	260	ONDR	8	S	0823	0823	.5	162			
	536	ONDR	3	S	0823	0823	.3	32			
	2950	GORK	1	S	0824.2	0824.4	1.3	15	7.5		
	9100	ARCE	2	S/F	0830.2	0830.4	.7				
	3100	CRIM	1	S	0833	0834	2	4	1		
	100	GORK			0833	0834.4		70 D			
	100	GORK	46	C	0833	0833.1	2.9	70			
	100	GORK			0833	0834.7		900			

7/22 Alert P.11

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK		FLUX DENSITY MEAN		INT	POLARIZATION OR REMARKS
6	113	POTS	46	C	0833.2	0834.5	2.2	650		50			
	127	TORN	45	C	0834	0834.8	1.5	150		50			
	200	GORK	8	S	0834.1	0834.4	1.1	80	D				
	100	GORK			0843	0845		230					
	100	GORK			0843	0843.7		65					
	100	GORK	41	F	0843	0843.1	2.6	35					
	950	GORK	2	SF	0845.4	0845.7	2	3					
	650	GORK	2	SF	0845.5	0845.8	1.9	8		2.5			
	600	UCCL	45	C	0845.5	0846	1.5	9		4			
	536	ONDR	2	S/F	0845	0846.2	2	10		2			
	200	GORK	3	S	0846.3	0846.6	1	20					
	950	GORK	2	SF	0849.4	0849.6	.6	2.2					
	100	GORK	3	S	0914	0915	.9	200					
	3100	CRIM	45	C	0914	0915.5	5	14		5			
	3100	CRIM			0914	0917.5		12		4			
	950	GORK	5	S	0914.2	0915.8	4.6	29		14			
	600	UCCL	2	S	0914.5	0915.2	8	57		18			
	9500	BERL	4	S/F	0914.5	0915	6.5	31					
	127	TORN	45	C	0914.6	0915.3	2	190		60			
	200	GORK	8	S	0914.6	0915.4	1.7	80	D				
	1470	BERL	4	S/F	0914.7	0916	4.8	23					
	10400	BERN	4	S/F	0914.8	0915.4	3	10		29			
	8400	BERN	4	S/F	0914.8	0915.4	3	16		42			
	8400	BERN	4		0914.8	0915.4	3	42					3L
	10400	BERN	4		0914.8	0915.4	3	29					
	9100	GORK	4	SF	0914.9	0915.4	4.5	42		20			
	6100	KISV			0914	0916.7		14					
	6100	KISV	46	C	0914	0915.7	6	30					
	6100	KISV			0914	0917		16					
	3000	BERL	4	S/F	0915	0915.7	3.5	18					
	202	IZMI	7	C	0915	0915	1	400		120			
	2950	GORK	4	SF	0915	0915.6	3	28					
	650	GORK	3	S	0915	0915.6	.8	29					
	650	GORK	29	PBI	0915	0915.8	15.2	17		4.5			
	9100	ARCE	3	S	0915.2	0915.5	1.4						
	234	POTS	4	S/F	0915.2	0915.5	1	240		15			
	113	POTS	46	C	0915.3	0915.6	1	100		15			
	260	ONDR	8	S	0915.5	0915.5	.6	168					
	15000	KISV	2	S/F	0915	0915.7	5	16					
	930	BORD	3	S	0915	0915.8	6	23		10			
	2650	DWIN	45	C	0915	0916	3	20		10			
	10715	DWIN	45	C	0915	0916	3	20		10			
	9100	ARCE	29	PBI	0916.6	0917	6.3						
	202	IZMI	4	S/F	0934.5	0934.8	.5	130		65			
	600	UCCL	1	S	0936	0936.2	.5	9		4			
	113	POTS	46	C	0947.7	0948.1	1	700		85			
	100	GORK	4	SF	0947.8	0948.4	1.5	40					
	9100	ARCE	2	S/F	1002.8	1002.9	.5						
	650	GORK	1	S	1009.6	1010.1	1.5	11		3			
	100	GORK	41	F	1021.9	1022.2	5	25					
	100	GORK			1021.9	1026		110					
	100	GORK			1021.9	1023.4		55					
	100	GORK			1021.9	1026.7		100					
	100	GORK	41	F	1041.6	1041.7	16	60	D				
	100	GORK	41	F	1041.6	1053.2		55					
	100	GORK			1041.6	1042.9		30					
	100	GORK			1041.6	1057.1		35					
	100	GORK			1041.6	1054.4		55	D				
	113	POTS	8	S	1041.8	1041.8	.2	2800		800			
	113	POTS	41	F	1054.5	1054.5	.2	450		40			
	3100	CRIM	3	S	1056.5	1057	2	15		5			
	2950	GORK	3	S	1056.6	1057.3	2.5	33		16			
	9100	GORK	20	GRF	1056.8	1057.5	13.7	5.5		2			
	3000	BERL	3	S	1056.8	1057.5	3.2	23					
	6100	KISV	4	S/F	1056	1057.5	4	5					
	2650	DWIN	45	C	1056	1057	3	25		15			
	1470	BERL	1	S	1057	1057.5	2	6.1					
	6100	KISV	2	S/F	1115	1118.5	8	10					
	7000	SAOP	3	S	1117	1118.4	1.2	13.5					41R
	3100	CRIM	1	S	1118	1118.5	1	4		1			
	200	GORK			1121.6	1131		80					
	200	GORK			1121.6	1126.1		23					
	200	GORK			1121.6	1123.3		24					
	200	GORK	41	F	1121.6	1122	19.7	42					
	9100	ARCE	29	PBI	1123.5	1123.9	2						
	9100	ARCE	3	S	1123	1123.1	.5						
	100	GORK			1126.3	1130.4		60					
	100	GORK			1126.3	1129.3		55	D				
	100	GORK			1126.3	1128.8		55					
	100	GORK	41	F	1126.3	1126.7	9.5	55	D				
	100	GORK			1126.3	1134.6		40					
	113	POTS	41	F	1133.3	1133.4	1.3	1950		50			
	100	GORK	45	C	1143.3	1143.6	1.6	60					
	100	GORK			1143.3	1144.6		50					
	100	GORK			1143.3	1144.2		50					

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
6	7000	SAOP	22 GRF	1223			12			25R
	127	TORN	45 C	1253.5	1254.4	3.2	320	100		
	228	HARS	45 C	1253.5	1255	4.5	220	70		
	1470	BERL	41 F	1254	1254.9	8	4.4			
	3000	BERL	41 F	1254	1254.8	7.2	8.2			
	113	POTS	42 SER	1254.1	1254.4	7.3	3200	35		
	33	UPIC	46 C	1254.2		2.7				
	234	POTS	42 SER	1254.3	1300.3	6.7	220	4		
	29	UPIC	46 C	1254.5	1255.1	2.4				
	10400	BERN	20 GRF	1259	1300.9	6	3	8		
	8400	BERN	20 GRF	1259	1300.9	6	4	11		
	8400	BERN	20	1259.1	1300.9	6	11			
	10400	BERN	20	1259.1	1300.9	6	8			
	9100	ARCE	1 S	1259.9	1301.1	5				
	127	TORN	45 C	1259	1300.2	2.8	470	85		
	9500	BERL	1 S	1300	1301	2	10			
	2800	OTTA	21 GRF	1340		120	8.2			
	245	SGMR	48 GB	1344	1349.9	11	1050	315		3G
	7000	SAOP	45 C	1345	1348.2	6	78			39L
	260	ONDR	4 S/F	1345	1345.5	2.5	179	80		
	8400	BERN	4 S/F	1346.9	1348.1	5	20	52		
	10400	BERN	4 S/F	1346.9	1348.1	5	14	38		
	9500	BERL	29 PBI	1347	1347.9	13	39			
	4995	ATHN	4 S/F	1347	1348.3	6.1	67.2	20.2		
	8400	BERN	4	1347	1348.1	5	52			18L
	10400	BERN	4	1347	1348.1	5	38			
	2695	ATHN	3 S	1347	1348.2	5.2	39.1	11.7		
	8800	ATHN	4 S/F	1347.2	1348.3	4.6	52.6	15.8		
	600	UCCL	46 C	1347.2	1347.5	3	20	10		
	536	ONDR	4 S/F	1347.2	1348.2	3.5	32	10		
	1415	ATHN	4 S/F	1347.3	1348.1	2.7	72.4	21.7		
	2695	SGMR	3 S	1347.4	1349	6.6	42.9	12.9		3G
	1415	SGMR	3 S	1347.4	1348	4.8	169	50.7		3G
	4995	SGMR	3 S	1347.4	1349	6.6	70.2	21.1		3G
	8800	SGMR	3 S	1347.4	1348.4	3.6	45.2	13.5		3G
	3000	BERL	29 PBI	1347.5	1348.2	6.5	42			
	1470	BERL	29 PBI	1347.5	1348.2	6.5	67			
	127	TORN	45 C	1347.5	1347.9	2.2	420	130		
	228	HARS	45 C	1347.5	1348	1.5	500	150		
	9100	ARCE	4 S/F	1347.6	1348.3	3.5				
	234	POTS	42 SER	1347.6	1348.1	4	700	60		
	9400	HUAN	S	1347.6	1348.4	10.7	43.3	16.9		L
	113	POTS	42 SER	1347.7	1347.9	4	3100	400		
	606	SGMR	3 S	1347.7	1347.9	3.3	52.8	15.8		3G
	29	UPIC	4 S/F	1347.8	1348.2	1.3				
	808	ONDR	4 S/F	1347	1348	3	58	10.8		
	10715	DWIN	45 C	1347	1348	3	20	10		
	2650	DWIN	45 C	1347	1348	3	40	20		
	930	BORD	46 C	1347	1347.8	3	115	9		
	2800	OTTA	3 S	1347	1348.2	3.5	40.4	10.1		
	410	SGMR	48 GB	1348	1348.5	6	687	207		3G
	2800	OTTA	1 S	1352.5	1352.8	1.5	3.4	1.8		
	930	BORD	8 S	1428.7	1428.7	.2	76	1		
	9400	HUAN	S	1433.7	1446	49.8	7.2	2.4		B
	2800	OTTA	21 GRF	1555	1627	65	6.2	3.1		
	4995	BOUL	23 GRF	1559	1611.5	46.5U	19	6		
	606	SGMR	3 S	1600	1600.2	5	128	51.2		
	2695	SGMR	3 S	1600.2	1601	4.8	39.9	16		3G,SWF
	1415	SGMR	3 S	1600.2	1600.5	4.8	24	9.6		
	9400	HUAN	S	1600.3	1621.1	58	16.2	4.3		B
	1420	BOUL	3 S	1600 E	1601	2.5D	22	7		
	2800	OTTA	45 C	1600	1600.6	10	19.8	5		
	2695	BOUL	4 SF	1601 E	1602	2 D	26	9		
	4995	BOUL	4 SF	1617	1619	4 U	30	10		
	1415	SGMR	3 S	1618.3	1619.4	6.7	64.8	25.9		
	2800	OTTA	4 S/F	1618	1618.3	8	20.2	5.2		
	930	BORD	45 C	1618	1621	4	167	9		
	2695	SGMR	3 S	1619	1619.7	6	29.5	11.8		SWF
	606	SGMR	3 S	1619	1619.6	6	43.6	17.4		
	2695	BOUL	3 S	1619.5E	1620.5	1.5D	47	16		
	1420	BOUL	4 SF	1619 E	1619.5	3.5D	49	16		
	2800	OTTA	1 S	1645.5	1647.7	5	2	1.5		
	2800	OTTA	21 GRF	1750	1810	120	2.8	1.4		
	2800	OTTA	1 S	1752.2	1752.5	2	3.8	1.9		
	9400	HUAN	S	1942.8	1942.9	1.9	45.2	17.2		L
	2800	OTTA	23 GRF	2000	2104	200	10.8	5.4		
	2695	PENT	22 GRF	2005	2010	12	2.8	1.4		
	2695	PENT	1 S	2018.8	2019.5	2	1.2	.6		
	9400	HUAN	S	2030.1	2105	1.1	17.2	9.4		B
	2800	OTTA	1 S	2031.5	2033.2	3	3.8	1.8		
	1420	BOUL	3 S	2036.5E	2037	1 D	13	4		
	2800	OTTA	4 S/F	2036	2037	2	39	7		
	4995	BOUL	8 S	2036	2036.5	1.5	16	5		
	2695	BOUL	3 S	2037.5E	2038	1 D	34	11		
	9400	HUAN	S	2050.3	2050.6	1.5	10.8	5		B

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	2800	OTTA	45	C	2054.5	2055.5	4	6.2	3.1		
	1420	BOUL	45	C	2057.5E	2058	1 D	18	6		
7	2930	VORO	3	S	0350	0353	10	116			
	5730	IRKU			0351.2	0353.2		81			
	5730	IRKU	45	C	0351.2	0352	8	44	20		L
	2695	MANI	4	S/F	0352.2	0354	3.6	101.6	67.8		
	8800	MANI	4	S/F	0352.7	0354	3	109.1	72.7		
	1415	MANI	4	S/F	0352.7	0354.5	3	11.8	7.9		
	35000	NAGO	5	S	0353	0353	1	8			
	5730	IRKU	29	PBI	0359		19	17	10		L
	6100	KISV	20	GRF	0621	0626	9	3			
	100	GORK	45	C	0720.3	0720.8		30			
	100	GORK	45	C	0720.3	0720.6	1	40 D			
	200	GORK	8	S	0725.9	0726.4	1	95 D			
	234	POTS	8	S	0726.2	0726.3	.2	195	50		
	202	IZMI	5	S	0726.2	0726.2	.3	400	160		
	100	GORK	8	S	0821	0821.2	.6	60 D			
	113	POTS	8	S	0821.1	0821.1	.3	2800	310		
	100	GORK			0851.7	0853.2		15			
	100	GORK			0851.7	0852.2		15			
	100	GORK	41	F	0851.7	0852.2	1.6	60			
	113	POTS	41	F	0852.1	0852.1	.7	125	3		
	100	GORK	8	S	1039.1	1039.3	.6	60			
	10400	BERN	46	C	1103.8	1106	18	18	51		
	10400	BERN	46		1103.8	1106	18	51			OPR
	7000	SAOP	45	C	1104	1109	13.2	83			37L
	4995	ATHN	14	C	1104.5	1109	33.7	59	17.7		
	9100	GORK	21	GRF	1104.6	1111.4	29	27			
	9100	ARCE	46	C/F	1104.9	1108.2	8.2				
	9100	ARCE			1104.9	1106.2	1.9				
	6100	KISV	46	C	1104	1109	21	44			
	15000	KISV	45	C	1104	1104.5	16	30			
	1470	BERL	29	PBI	1105	1106.4	24	10			
	3000	BERL	30	PBI	1105	1108.4	25	36			
	9500	BERL	30	PBI	1105	1109	25	49			
	3100	CRIM	3	S	1105	1108.5	9	22	7		
	3100	CRIM	30	PBI	1105	1114		8			
	9100	GORK	46	C	1105.3	1106.1		54			
	9100	GORK			1105.3	1108		49			
	8800	ATHN	14	C	1105.3	1109		64.1	19.2		
	8800	ATHN	14	C	1105.3	1106	30.3	58.7	17.6		
	2695	ATHN	3	S	1105.3	1109.1	25.3	28.6	8.6		
	1415	ATHN	3	S	1105.6	1106.3	26.3	20.9	6.3		
	10715	OWIN	45	C	1105	1108	26	30	15		
	2650	OWIN	45	C	1105	1108	15	30	15		
	9100	ARCE			1106.8	1108.2	6.3				
	2950	GORK	4	SF	1107.2	1108.4	3	34	15		
	9100	ARCE	30	PBI	1113.1		34				RECORD DISTURBE
	100	GORK	45	C	1117.1	1117.3	1.1	60			
	100	GORK			1117.1	1118.1		20			
	113	POTS	8	S	1117.9	1118	.1	100	30		
	7000	SAOP	4	S/F	1125.2	1125.8	1.2	30			27R
	10400	BERN	1	S	1125.4	1125.8	1	6	16		
	8400	BERN	1	S	1125.4	1125.8	1	11	28		
	3100	CRIM	1	S	1125.5	1126	1.5	7	2		
	6100	KISV	8	S	1125.5	1126	5	21			
	10400	BERN	1		1125.5	1125.9	1	16			
	8400	BERN	1		1125.5	1125.9	1	28			
	9100	ARCE	3	S	1125.7	1126	1.7				
	2950	GORK	4	SF	1125.7	1225.9	2.7	24	12		
	9100	GORK	1	S	1125.7	1126	.8	22	11		
	245	SGHR	44	NS	1155 E	1835.9	604 D	36			
	100	GORK			1218.2	1220.9		65			
	100	GORK	45	C	1218.2	1218.6	3	65			
	200	GORK	8	S	1220.5	1220.8	.5	85			
	200	GORK	8	S	1221.1	1221.4	.5	85			
	9100	ARCE	2	S/F	1247.3	1247.6	.5				
	2800	OTTA	20	GRF	1618	1624	27	2.6	1.3		
	9400	HUAN			1745.2	1747.2		25.5			
	9400	HUAN		C	1745.2	1746.8	2.9	22.1	11.2		0
	9400	HUAN		S	1822.2	1850.8	57.1	13.6	5.8		L
	2800	OTTA	1	S	1842	1843	2	2.6	1.3		
	2695	PENT	20	GRF	1957	2002	15	1.8			
	2800	OTTA	20	GRF	2020	2024	20	1.8	1		
	2695	PENT	22	GRF	2120	2250	140	7			
8	200	HIRA	41	F	0026.5	0030	4	1000			0
	100	HIRA	41	F	0026.8	0030	4	1000			0
	2695	MANI	4	S/F	0203.8	0206.2	10	102.4	68.3		
	5730	IRKU	45	C	0204.5	0204.7	12	24	40		R
	5730	IRKU			0204.5	0211.9		46			R
	5730	IRKU			0204.5	0210		55			R
	5730	IRKU			0234.5	0207.8		95			R
	5730	IRKU			0204.5	0206.2		113			R

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION % REMARKS
	1415	MANI	4	S/F	0205.4	0208.9	15	19.7	6.6		
	606	MANI	4	S/F	0205.7	0209.8	8.1	17	5.7		
	35000	NAGO	20	GRF	0235	0210	20	13			
	1415	MANI	4	S/F	0224.6	0231.6	33.1	91.6	61		
	2695	MANI	4	S/F	0225.2	0244	32.3	56	37.3		
	606	MANI	4	S/F	0225.5	0245.4	30.5	140.6	93.7		
	200	HIRA	24	R	0231	0400	345 D	35	20		MR
	100	HIRA	24	R	0236	0430	340 D	180	100		MR
	500	HIRA	45	C	0240.9	0245.2	15	165	70		MR
	200	HIRA	46	C	0241	0244	10	150	80		WLWR
	100	HIRA	46	C	0242	0242.5	9	80	30		0
	100	GORK	44	NS	0558 E		422 E		10		
	127	TORN	44	NS	0720 E	1301.6	440 D	24	10		VO
	245	SGMR	43	NS	1318.4	1407.8	522.6D	462			
	6100	KISV	45	C	0646	0651	7	5			
	9100	GORK	20	GRF	0653.7	0709	67	15	7.5		
	950	GORK			0657.9	0703.5		15			
	950	GORK	46	C	0657.9	0701	8	22 D			
	650	GORK	40	F	0658.5	0703.5	6.5	7.5			
	6100	KISV	20	GRF	0703	0708	82	6			
	6100	KISV	20	GRF	0837	0843	18	3			
	930	BORD	46	C	0840	0840.8	1	23	2		
	260	ONDR	42	SER	0946	1007.8	28	10			
	260	ONDR	42	SER	1233	1407.5	94	84			
	2800	OTTA	240	R	1347	1349	2	2.2	1.1		
	9400	HUAN		S	1411.2	1444.8	50	6.6	3		L
	4995	BOUL	4	SF	1446.5	1447.5	3.5	62	21		
	7000	SAOP	4	S/F	1447	1448.2	3	70			20L
	10400	BERN	2	S/F	1447.2	1448.1	10	12	32		
	8400	BERN	2	S/F	1447.2	1448.1	10	18	46		
	10400	BERN	2		1447.2	1448.1	10	32			
	8400	BERN	2		1447.2	1448.1	10	46			14L
	4995	SGMR	3	S	1447.3	1448.1	4.9	68	14		SWF
	15400	SGMR	3	S	1447.5	1448	1	12	2		SWF
	8800	SGMR	3	S	1447.6	1448.3	4.6	29	2		SWF
	4995	ATHN	4	S/F	1447.6	1448.5	8	56.1	16.8		
	9400	HUAN		S	1447.7	1448	7	39.9	15.6		L
	9100	ARCE	3	S	1447.7	1448.3	2.2				
	2695	ATHN	2	GRF	1447.8	1448.5	7.8	16.4	9.8		
	8800	ATHN	3	S	1447.8	1448.4	7.7	45.9	13.8		
	10715	DWIN	2	S/F	1447	1448	2	20	10		
	2650	DWIN	4	S/F	1447	1448	8	25	15		
	2800	OTTA	3	S	1447	1448.2	13	25	8.2		
	2695	SGMR	3	S	1448	1448.4	4.2	31	6		SWF
	9100	ARCE	29	PBI	1449.9		6.5				
	228	HARS	1	S	1507	1507.2	.5	350	110		
	1415	SGMR	3	S	1518.5	1512.9	7.1	5	1		
	2800	OTTA	21	GRF	1518	1545	125	8.6	4.3		
	9400	HUAN		S	1519.2	1600.5	104.4	24.9	5.7		0
	2800	OTTA	4	S/F	1519	1522.4	6	17.6	5.9		
	8800	SGMR	3	S	1520.2	1523.1	3.9	15	3		
	4995	SGMR	3	S	1520.2	1523.1	3.9	33	7		
	2995	SGMR	3	S	1520.2	1523.1	3.9	22	4		
	4995	BOUL	4	SF	1521	1522.5	2	28	9		
	10400	BERN	46	C	1522.1	1523	7	4	12		
	8400	BERN	46	C	1522.1	1523	7	7	18		
	10400	BERN	46		1522.1	1523	7	12			
	8400	BERN	46		1522.1	1523	7	18			
	2695	ATHN	2	GRF	1522.2	1522.6	2	19.6	11.8		
	9400	HUAN		S	1522.3	1523	1.6	16.6	10		0
	8800	ATHN	2	GRF	1522.4	1523	2.3	8.3	5		
	4995	ATHN	2	GRF	1522.4	1523	2.1	14.6	8.8		
	7000	SAOP	3	S	1539	1541	1.8	25			0
	2800	OTTA	26	FAL	1920	2010	50	-3.4			
	2800	OTTA	1	S	2053.5	2053.9	1	2.2	1.1		
	2800	OTTA	1	S	2114	2115.2	2	3.6	1.8		
	2800	OTTA	29	PBI	2116	2116	25	1.8	1.3		
	4995	BOUL	8	S	2237.5	2238	1	16	5		
	2695	PENT	8	S	2237.8	2237.9	.2	3.6	1.8		
	2695	PENT	21	GRF	2242	2300	50	3.4	1.7		
	4995	BOUL	4	SF	2248.5	2249	1.5	24	8		
	1420	BOUL	4	SF	2249 E	2249.5	1 D	57	19		
	2695	PENT	3	S	2249	2249.5	3	32	7.8		
	2695	BOUL	3	S	2250 E	2251	1.5D	41	14		
	2695	PENT	8	S	2314.7	2314.8	.7	8.4	2.1		
	2695	PENT	8	S	2327.8	2327.9	.5	7.2			
9	1415	MANI	8	S	0024	0024.1	.4	46.4	15.5		
	2695	MANI	1	S	0024	0024.2	.6	9.2	3.1		
	5730	IRKU	2	S	0225	0226	3	25	12		R
	3100	CRIM	1	S	0639	0640	2	8	3		
	6100	KISV	4	S/F	0639	0640	8	4			
	127	TORN	44	NS	0720 E	0846.2	440 D	17	.5U		V1
	260	ONDR	44	NS	0812 F		386 D	51			
	245	SGMR	44	NS	1153 E	1628.5	609 D	230			
	6100	KISV	45	C	0740	0757	35	9			

#420 AUS P.15

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	9500	BERL	20 GRF	0745	0757.3	70	21			
	9100	GORK	20 GRF	0748.8	0757	52	21	10		
	4995	ATHN	2 GRF	0752.1	0755.7	9.7	11.7	7		
	8800	ATHN	2 GRF	0752.1	0755.6	9.6	20.8	12.5		
	15000	KISV	4 S/F	0752	0757.5	23	25			
	1470	BERL	8 S	0753	0753.2	.5	5			
	3000	BERL	20 GRF	0758	0802.3	42	6.5			
	202	IZMI	5 S	0936.5	0936.5	.3	680	300		
	9500	BERL	20 GRF	1125	1155	75	14			
	3100	CRIM	1 S	1133	1133.5	1.5	4	1		
	7000	SAOP	3 S	1133	1133.5	1	11.5			35R
	9100	GORK	20 GRF	1133.6	1148	40	8	2.5		
	6100	KISV	45 C	1133	1133.8	4	4			
	6100	KISV	20 GRF	1137	1150	13 D	4			
	7000	SAOP	8 S	1141.5	1207.6	.4	18.5			8R
	7000	SAOP	41 GRF	1141.5			9			28R
	3000	BERL	3 S	1142	1143.5	2.5	7.5			
	3100	CRIM	1 S	1142.5	1143.5	1.5	8	3		
	1470	BERL	1 S	1143	1143.5	2	1.5			
	10400	BERN	1 S	1334.7	1335.1	1	4	11		
	8400	BERN	1 S	1334.7	1335.1	2	4	11		
	8400	BERN	1	1334.7	1335.1	2	11			
	10400	BERN	1	1334.7	1335.1	1	11			
	9400	HUAN	S	1412.3	1436.5	43.5	9.2	4.6		D
	9400	HUAN	S	1543.7	1555	22.7	7.3	4.9		R
	7000	SAOP	46 C	1543	1556	.6	18			22L
	9400	HUAN	S	1618.4	1618.6	2.4	16.5	8.7		R
	8800	SGMR	3 S	1618.7	1618.9	1.3	15.5	4.7		
	4995	SGMR	1 S	1618.8	1618.9	2.2	79.1	2.4		
	7000	SAOP	3 S	1619	1620	4.4	24			D
	410	SGMR	6 S	1619.5	1620.8	3.3	9.8	2.9		
	2800	OTTA	20 GRF	1625	1630	25	3	1.7		
	2800	OTTA	1 S	1728	1728.8	2	2.6	1.3		
	2800	OTTA	1 S	1732	1736	8	2.2	1.1		
	2800	OTTA	27F RF	1812		63	3	2.7		
	2800	OTTA	24 R	1812	1817	5	3	2		
	2800	OTTA	24P R	1817		50	3			
	245	SGMR	6 S	1859.3	1859.9	2.7	194	58.2		
	410	SGMR	6 S	1859.5	1859.9	.9	5.6	1.7		
	606	SGMR	1 S	1859.5	1859.8	3.1	3.9	1.2		
	1415	SGMR	1 S	1859.8	1900.9	1.4	8.8	2.6		3G
	2800	OTTA	26 FAL	1907	1915	8	-3	-1.5		
	2800	OTTA	1 S	1918	1920	5	2.2	1.1		
	9400	HUAN	S	1952.7	2018.1	56.7	9.2	4.3		R
	2800	OTTA	20 GRF	2005	2030	45	2.4	1.2		
	2695	PENT	20 GRF	2054	2055	30	2	1.2		
	2695	PENT	20 GRF	2148	2200	35	6.6	3.3		
8	100	GORK	41 F	0652.4	0652.5	4.6	90			
	100	GORK		0652.4	0657.1		30			
	3100	CRIM	21 GRF	0718	0827		32			
	100	GORK	8 S	0725.2	0725.5	.5	70			
	9100	GORK	21 GRF	0735.8	0803.8	270 E	32			
	8800	ATHN	2 GRF	0740.2	0755.7	55.1	39.6	23.8		
	15000	KISV	4 S/F	0740	0745	10	11			
	4995	ATHN	2 GRF	0742	0759.6	54.1	23.7	14.2		
	3100	CRIM	1 S	0743	0744.5	2	12	4		
	2695	ATHN	2 GRF	0743.2	0820.2	53.6	19.3	11.6		
	2950	GORK	3 S	0743.3	0745.1	2.5	22	11		
	9100	GORK	1 S	0744.4	0745.2	1.8	7	3.5		
	127	TORN	45 C	0755.7	0756.4	1.5	300 U			
	113	POTS	4 S/F	0755.9	0756.1	1.1	2400	100		
	234	POTS	8	0756	0756.1	.4	1200	2		
	202	IZMI	4 S/F	0756	0756.2	.8	250	104		
	200	GORK	8 S	0756	0757 U	2	70 D			
	100	GORK	8 S	0756.2	0757 U	1.8	100 D			
	200	GORK	1 S	0834.2	0835.6	3	24			
	100	GORK	40 F	0835.2	0835.6	2.1	43			
	260	ONDR	44 NS	0840 E		335 D	46			
	245	SGMR	44 NS	1153 E	1628.5	611 D	227.8			3G
	9500	BERL	S	0947.5	0948.5	2.5	8.2			
	9100	GORK	1 S	0947.8	0948.9	2.5	8	4		
	9500	BERL	3 S	0956.3	0957.5	4.7	14			
	10400	BERN	20 GRF	0956.6	0957.3	7	5	15		
	8400	BERN	20 GRF	0956.6	0957.3	7	7	18		
	10400	BERN	20	0956.7	0957.3	7	15			
	8400	BERN	20	0956.7	0957.3	7	18			
	10715	DWIN	1 S	0956	0957	3	10	5		
	9100	GORK	1 S	0957.8	0958.1	2	16	8		
	9100	ARCE	3 S	0957	0957.5	3.2				
	15000	KISV	8 S	0957	0957.7	1	9			
	8800	ATHN	2 GRF	1136.7	1205.9	42.7	25.3	15.2		
	4995	ATHN	2 GRF	1143.9	1154.6	27.1	11.2	6.7		
	9500	BERL	20 GRF	1150	1248	58	14			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	9400	HUAN		S	1218.5	1248.2	63.7	21.6	7.2		R
	10400	BERN	20		1243	1248.4	38	9			
	10400	BERN	20	GRF	1243	1248.4	38	3	9		
	8400	BERN	20	GRF	1243	1248.4	38	7	15		
	8400	BERN	20		1243	1248.4	38	15			
	2800	OTTA	20	GRF	1427	1520	80	3	2.3		
	7000	SAOP	3	S	1428	1430	6.4	44			O
	9400	HUAN		S	1428.6	1430	3.5	61.4	20.2		R
	10400	BERN	20	GRF	1428.9	1430	4	19	56		
	8400	BERN	20	GRF	1428.9	1430	4	22	56		
	10400	BERN	20		1428.9	1430	4	56			
	8400	BERN	20		1428.9	1430	4	56			8R
	8800	ATHN	4	S/F	1429	1430.1	8.3	71.7	21.5		
	4995	ATHN	3	S	1429.6	1430.3	5	13.4	4		
	8800	SGMR	3	S	1429.7	1430	1.8	71.5	21.5		
	15400	SGMR	3	S	1429.8	1430.1	1.1	28.6	8.6		
	10715	DWIN	4	S/F	1430	1431	1	50	30		
	9100	ARCE	8	S	1430	1430.4	.9				
	7000	SAOP	1	S	1511	1512.4	3.4	8.5			O
	7000	SAOP	20	GRF	1604	1607.4		8.5			O
	9400	HUAN		S	1633.7	1659	44.5	10	5.6		O
	2800	OTTA	20	GRF	1645	1652	25	2			
	2800	OTTA	20	GRF	1740	1840	120	3	1.8		
	9400	HUAN		S	1752.9	1802.3	24.9	8.3	6		R
	9400	HUAN		S	1805.3	1806.1	1.4	9.1	4.3		R
	9400	HUAN			1832.2	2000		8.3			
	9400	HUAN		S	1832.2	1915.3	100	6.6	5.1		R
	9400	HUAN		S	2020.4	2037.5	35.3	11.6	6.4		O
	4995	SGMR	3	S	2036.4	2037	7.6	28.6	11.4		
	2800	OTTA	3	S	2036.5	2037.5	3	14.6	7.2		
	4995	BOUL	4	SF	2036	2036.5	5	29	10		
	2695	SGMR	3	S	2037.2	2037.7	6.8	13.7	5.5		
	2695	BOUL	3	S	2037.5E	2038	2 D	13	4		
	2800	OTTA	32	ABS	2050	2140	115	-6.6	-3.3		
11	5730	IRKU	1	S	0430.5	0402.4	4	21	6		L
	9100	GORK	20	GRF	0656.4	0702	116 E	8	3		
	100	GORK			0712.3	0712.6		20			
	100	GORK	45	C	0712.3	0712.4	.5	50			
	260	ONDR	44	NS	0800 E		388 D	81	4		
	410	SGMR	44	NS	1151 E	1237.6	614 D	70.6			
	245	SGMR	44	NS	1151 E	1222.7	614 D	259			
	100	HIRA	44	NS	2135 E	0150	640 D	300	50		SL
	9100	GORK	20	GRF	0815.8	0841.2	46	7	2.5		
	221	ABST	42	SER	0820.8	0842.2	23	13			
	930	BORD	41	F	0830	0830.3	.8	14	2		
	100	GORK	41	F	0911.7	0911.8	8.3	100			
	100	GORK			0911.7	0919.7		180			
	9100	GORK	20	GRF	0941.3	1003	41.5	7	2.5		
	100	GORK	8	S	1028.9	1029.1	.5	265 D			
	9100	ARCE	3	S	1042.9	1043.3	3.4				
	9100	GORK	1	S	1043.6	1043.9	2.1	14.5	7		
	33	UPIC	8	S	1103.2		.8				
	29	UPIC	8	S	1103.3	1103.8	.9				
	15000	KISV	8	S	1133	1133.5	1	8			
	10400	BERN	21		1141	1238.3	96	43			
	10400	BERN	21		1141	1211.2	96	11			
	10400	BERN	21	GRF	1141	1211.2	96	4	11		
	8400	BERN	21	GRF	1141	1211.2	96	5	13		
	10400	BERN	21	GRF	1141	1142.1	96	2	6		
	8400	BERN	21	GRF	1141	1142.1	96	3	8		
	10400	BERN	21	GRF	1141	1238.3	96	15	43		
	8400	BERN	21	GRF	1141	1238.3	96	21	57		
	10400	BERN	21		1141	1142.1	96	6			
	8400	BERN	21		1141	1142.1	96	8			
	8400	BERN	21		1141	1238.3	96	57			
	8400	BERN	21		1141	1211.2	96	13			
	536	ONDR	41	F	1222.5	1223.3	16	16	1.5		
	9400	HUAN		S	1222.5	1357	248	34	22.4		R
	234	POTS	8	S	1222.6	1222.6	.2	1000	250		
	3000	BERL	21	GRF	1222	1235.5	128 D	25			
	9100	ARCE	21	GRF	1225.7	1255.3	56				
	9500	BERL	21	GRF	1226	1246.5	124 D	34			
	2695	ATHN	2	GRF	1228.4	1235.5	42.1	9.9	6		
	4995	ATHN	2	GRF	1228.4	1235.5	42.1	46	27.6		
	8800	ATHN	2	GRF	1228.5	1235.5	42.1	34.7	20.8		
	1470	BERL	21		1228	1234.5	66	6.9			
	33	UPIC	4	S/F	1231.8	1232.2	1.5				
	29	UPIC	2	S/F	1231.9	1232.6	1.6U				
	9400	HUAN		S	1234	1246.5	39.3	20.4	10.6		R
	930	BORD	8	S	1235.7	1235.7	.1	25	1		
	9400	HUAN		S	1237.6	1238.4	1.8	28.9	11.6		O
	9500	BERL	3	S	1238	1238.5	1.2	46			
	1470	BERL	3	S	1238	1238.5	1	7.3			
	3000	BERL	8	S	1238.2	1238.5	.8	200			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	808	ONDR	3	S	1238.2	1238.2	.2	30			
	9100	ARCE	3	S	1238.5	1238.7	1.4				
	10715	OWIN	1	S	1238	1238	2	8	5		
	2650	OWIN	8	S	1238	1238	1	110 D			
	2800	OTTA	21	GRF	1320	1440	190	9.4			
	7000	SAOP	1	S	1329	1330	2.6	9.5			0
	2800	OTTA	1	S	1551	1551.6	1.2	2.6	1.3		
	7000	SAOP	4	S/F	1604	1238.4	.8	38			17L
	7000	SAOP	45	C	1604	1235.6	1.2	14			36L
	2800	OTTA	20	GRF	1655	1755	205	7	4.5		
	9400	HUAN		S	1718.3	1745.8	38.4	11.9	5.1		0
	7000	SAOP	3	S	1820	1820.8	2.4	23			0
	9400	HUAN		S	1820.2	1821	1.6	13.6	6.8		R
	9400	HUAN		S	2020.4	2040.8	31.9	10.2	4.7		R
	9400	HUAN		C	2033.7	2034.7	4.5	59.5	19.7		R
	4995	BOUL	45	C	2033	2035.5	4	35	12		
	245	SGMR	49	GB	2034	2034.1	16	2270	908		
	1415	SGMR	3	S	2034.1	2036.4	9.9	13.2	5.3		
	4995	SGMR	3	S	2034.4	2035.9	9.6	32.2	12.9		
	606	SGMR	3	S	2034.4	2036.4	15.6	145	58		
	8800	SGMR	3	S	2034.4	2034.5	9.6	33.3	13.3		
	2695	SGMR	3	S	2034.6	2036.5	9.4	22.2	8.9		
	15400	SGMR	3	S	2034.6	2034.7	9.4	40.4	16.2		
	410	SGMR	49	GB	2034.9	2035	15.1	688	275		
	2800	OTTA	4	S/F	2034	2036.2	4	22	12		
	1420	BOUL	45	C	2034 E	2036.5	4.5D	54	18		
	2695	BOUL	45	C	2035 E	2036	3.5D	26	9		
	2800	OTTA	29	PBI	2038	2038	5	2.4			
	2695	PENT	26	FAL	2050	2100	10	-3.6	-1.8		
	2695	PENT	32	ABS	2130	2205	70	-3.6	-1.8		
12	35000	NAGO	20	GRF	0016	0029	76	27			
	200	HIRA	43	NS	0020	0130	475 D	45	18		ML
	100	GORK	44	NS	0545 E		375		60		
	200	GORK	44	NS	0545 E		375 E		20		
	127	TORN	44	NS	0630 E	0811.8	510 D	920	80		V2
	202	IZMI	44	NS	0700		300	70			
	221	ABST	43	NS	0800	0851	60	21			
	260	ONDR	44	NS	0800 E		401 D	34	5		
	410	SGMR	44	NS	1149 E	1413.1	617 D	56.1			3G
	245	SGMR	44	NS	1149 E	1206.3	617 D	107			3G
	2930	VORO	45	C	0020	0028	15	86			
	2695	MANI	4	S/F	0024.2	0026.4	6.4	52.9	17.6		
	1415	MANI	4	S/F	0024.2	0026.7	4.5	17.7	5.9		
	35000	NAGO	20	GRF	0144	0308	119	19			
	5730	IRKU			0211	0216.1		27			R
	5730	IRKU	45	C	0211	0213.8	14	61	14		R
	1415	MANI	4	S/F	0213	0213.9	4.8	52.5	35		
	606	MANI	4	S/F	0213	0213.5	4.3	98.2	65.5		
	2695	MANI	4	S/F	0213	0213.7	5.3	16.1	10.7		I
	500	HIRA	4	S/F	0213.1	0213.4	2	460	190		ML
	100	GORK	4	SF	0647.9	0648.4	1.3	2000			
	9100	GORK	20	GRF	0749.3	0753.2	12.6	9	4		
	600	UCCL	46	C	0807	0808	3	27	10		
	200	GORK			0810.2	0813		2300			
	200	GORK	46	C	0810.2	0812	3.5	200 D			
	10400	BERN	45	C	0810.4	0812.8	3.5	14	40		
	8400	BERN	46	C	0810.4	0812.8	3.5	15	40		
	10400	BERN	45		0810.5	0812.9	3.5	40			
	8400	BERN	46		0810.5	0812.9	3.5	40			8R
	234	POTS	42	SER	0810.8	0811.8	4.1	3500	150		
	1470	BERL			0811	0826.5		40			
	1470	BERL	42	SER	0811	0813.4	34	39			
	3000	BERL	3	S	0811	0813	2.5	13			
	9500	BERL	4	S/F	0811	0812.8	3	36			
	650	GORK	4	SF	0811	0813.3	3.6	24	12		
	650	GORK	21	GRF	0811		77.5				
	950	GORK			0811.1	0813.3		41			
	950	GORK	46	C	0811.1	0811.4	3.7	64			
	1415	ATHN	2	GRF	0811.1	0813	6.3	56	33.6		
	113	POTS	42	SER	0811.2	0812	2.3	2500	250		
	2950	GORK			0811.2	0818		7			
	2950	GORK	45	C	0811.2	0812.9	9.1	15			
	2695	ATHN	2	GRF	0811.2	0813	7.7	13.1	7.8		
	4995	ATHN	2	GRF	0811.2	0812.9	7.9	21.8	13.1		
	8800	ATHN	2	GRF	0811.3	0812.8	6.2	33	19.8		
	9100	GORK	29	PBI	0811.3	0813.6	22	9.5	4		
	9100	GORK	4	SF	0811.3	0812.9	2.3	41	18		
	202	IZMI	45	C	0811.3	0812	2.3	200	125		
	9100	ARCE	4	S/F	0811.5	0813.1	2.9				
	606	MANI	4	S/F	0811.5	0813.4	6.5	17.9	6		
	2695	MANI	4	S/F	0811.6	0813.3	3.8	13.4	4.5		I
	1415	MANI	4	S/F	0811.6	0813.4	3.2	42	14		
	10715	OWIN	4	S/F	0811	0813	3	25	20		
	2650	OWIN	4	S/F	0811	0813	3	15	10		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK		FLUX DENSITY MEAN		INT	POLARIZATION OR REMARKS
12	6100	KISV	45	C	0811	0812.5	3	14					
	6100	KISV	29	PBI	0811	0902	51	5					
	6100	KISV			0811	0813		14					
	15000	KISV	8	S	0813	E 0813		43					
	9100	ARCE	29	PBI	0814.4		9						
	3100	CRIM	1	S	0817	0817.5	2	6		2			
	808	ONDR	42	SER	0820.8	0821	30	52		2.2			
	113	POTS	8	S	0821.5	0821.7	.5	1250		400			
	536	ONDR	45	C	0821	0823	5	22		7.5			
	260	ONDR	46	C	0821	0822	4	199		10			
	3100	CRIM	29	PBI	0830	0832.5	33	14		5			
	1415	MANI	1	S	0839.6	0840.5	2.4	5.2		3.5			
	650	GORK	4	SF	0840	0840.5	.9	115		34			
	950	GORK	1	S	0840.2	0840.5	.5	8.8		4.4			
	606	MANI	4	S/F	0840.2	0840.6	4.8	110.3		73.4			
	536	ONDR	8	S	0850	0850.5	1	72					
	100	GORK			0855.2	0855.3	.4	2300	D				
	9100	ARCE	1	S	0855.7	0855.8	.8						
	9100	ARCE	4	S/F	0901.1	0901.3	1						
	3100	CRIM	3	S	0916.5	0919	13	26		9			
	4995	ATHN	2	GRF	0917.1	0919.4	4.9	30.5		18.3			
	9100	GORK	21	GRF	0917.1	0920.6	20.5	12		4			
	650	GORK	4	SF	0918	0919.5	3.3	16		4.5			
	950	GORK	2	SF	0918	0919.6	5.5	13					
	3000	BERL	3	S	0918	0919.5	11	52					
	8800	ATHN	2	GRF	0918.5	0919.4	3.1	16.5		9.9			
	1415	ATHN	2	GRF	0918.6	0919.1	3.4	11.2		6.7			
	2695	ATHN	2	GRF	0918.6	0919.4	3.2	52.3		31.4			
	10400	BERN	2	S/F	0918.9	0919.5	4	7		19			
	8400	BERN	2	S/F	0918.9	0919.5	4	10		24			
	113	POTS	46	C	0918.9	0919.6	1.6	2500		70			
	2950	GORK	3	S	0918.9	0919.6	2.9	45	D				
	10400	BERN	2		0918.9	0919.6	4	19					
	8400	BERN	2		0918.9	0919.6	4	24					7R
	2650	DWIN	4	S/F	0918	0920	5	60		30			
	1470	BERL	3	S	0919	0919.7	6	15					
	9500	BERL	3	S	0919	0919.4	3	13					
	100	GORK	4	SF	0919	0919.5U	1.4	2300	D				
	9100	GORK	1	S	0919	0919.5	1.3	18		9			
	200	GORK	8	S	0919.1	0919.6	1.2	190					
	29	UPIC	45	C	0919.2	0920.1	1.7						
	33	UPIC	45	C	0919.2		2.8						
	9100	ARCE	3	S	0919.5	0919.9	1.6						
	6100	KISV	29	PBI	0919	0928	16	5					
	6100	KISV	8	S	0919	0919.5	4	12					
	15000	KISV	45	C	0919	0919.5	10	12					
	15000	KISV			0919	0925		8					
	536	ONDR	45	C	0926	0929.5	5	20		5.3			
	808	ONDR	2	S/F	0928	0930	6	18		3.8			
	200	GORK			0937.9	0954.8		160					
	200	GORK			0937.9	0951.2		170	D				
	200	GORK			0937.9	0943.5		170					
	200	GORK	41	F	0937.9	0939.4	17.8	170					
	6100	KISV	27	RF	0941	0946	10	3					
	100	GORK			0950.3	0954.5		2280					
	100	GORK	41	F	0950.3	0950.9	4	2200	D				
	3100	CRIM	3	S	0957	1002	15	11		4			
	10400	BERN	22	GRF	0957	1143.5	113	10		29			
	8400	BERN	22	GRF	0957	1143.5	113	5		21			
	10400	BERN	22		0957	1143.6	113	29					
	8400	BERN	22		0957	1143.6	113	21					
	1470	BERL	21	GRF	0957	1037.5	113	5.1					
	15000	KISV	27	RF	0957	1003	11	8					
	2950	GORK	20	GRF	0958	1002.3	12.6	13		6.8			
	9100	GORK	20	GRF	0958.3	1039.1	97.3	22.5		13.5			
	3000	BERL	21	GRF	0958	1039	122	12					
	9500	BERL	20	GRF	0958	1039	148	23					
	650	GORK	20	GRF	1006	1016.6	40	2.5		1.5			
	3100	CRIM	1	S	1029	1030.5	1	12		4			
	4995	ATHN	3	S	1029.9	1030.5	1.1	16.5		4.9			
	2695	ATHN	3	S	1029.9	1030.5	.9	10.9		3.3			
	1415	ATHN	3	S	1030.1	1030.5	.6	29.4		8.8			
	33	UPIC	8	S	1030.1	1030.3	.4						
	29	UPIC	8	S	1030.4	1030.6	.3						
	2950	GORK	3	S	1030.4	1030.8	.7	16		8			
	950	GORK	3	S	1030.5	1030.9	1	20		10			
	536	ONDR	3	S	1030.5	1030.5	1	13		1.4			
	1470	BERL	8	S	1030.5	1030.9	1	28					
	3000	BERL	3	S	1030.5	1030.9	1	22					
	2650	DWIN	1	S	1030	1030	1	15		10			
	930	BORD	45	C	1030	1030.8	2	35		3			
	808	ONDR	2	S/F	1030	1030.8	2	22		4			
	2950	GORK	20	GRF	1032.2	1039.1	42.6	8					
	200	GORK	8	S	1036.4	1037	.9	160	D				
	6100	KISV	21	GRF	1056	1139	99	12					

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
12	6100	KISV		1056	1124		12			
	6100	KISV		1056	1109		8			
	6100	KISV		1056	1102.5		10			
	113	POTS	45 C	1059.9	1100.5	1.1	700	100		
	33	UPIC	8 S	1100.4	1100.5	.5				
	6100	KISV	8 S	1116	1116.3	1	3			
	6100	KISV	8 S	1129.8	1130.5	1	5			
	536	ONDR	2 S/F	1136.6	1136.6	1.5	10	1		
	9100	ARCE	1 S	1141.9	1142.2	.7				
	33	UPIC	45 C	1204.6	1204.9U	1.6				
	29	UPIC	45 C	1204.7	1205	1.1				
	9400	HUAN	S	1227	1304	68.7	8.1	3.9		R
	33	UPIC	2 S/F	1233.4	1233.5	.6				
	29	UPIC	2 S/F	1233.5	1233.7	.6				
	7000	SAOP	20 GRF	1247.4			9			0
	7000	SAOP	1 S	1328	1330.6	10	10			0
	9400	HUAN	S	1329.5	1330.6	2.3	4.8	3.5		R
	9400	HUAN	S	1427.2	1445.5	33.3	9.7	4		0
	2800	OTTA	4 S/F	1430	1438.5	10	15	4		
	600	UCCL	2 S	1433	1434	2	14	6		
	10400	BERN	2	1435.4	1438.7	22	16			
	10400	BERN	2 S/F	1435.4	1438.6	22	6	16		
	8400	BERN	2 S/F	1435.4	1438.6	22	8	21		
	2695	ATHN	2 GRF	1435.4	1438.2	5.8	8.7	5.2		
	1415	ATHN	4 S/F	1435.4	1438	9.6	16.4	49.2		
	8400	BERN	2	1435.4	1438.7	22	21			
	4995	ATHN	2 GRF	1435.6	1438.7	5.6	25.6	15.3		
	930	BORD	46 C	1435	1438.2	10	160	10		
	7000	SAOP	4 S/F	1436	1438.6	15.6	27			30L
	8800	ATHN	2 GRF	1436.2	1438.5	5.8	28.8	17.3		
	9400	HUAN	S	1436.3	1438.6	5.4	14.5	10.6		0
	1415	SGMR	3 S	1436.3	1438.1	7.1	244	49		SWF
	4995	SGMR	3 S	1436.5	1438.5	2.8	26.6	10.6		SWF
	808	ONDR	45 C	1436.5	1438	3.5	35	14		
	536	ONDR	4 S/F	1436.5	1438.5	3.5	10	4.4		
	606	SGMR	3 S	1436.7	1438.2	2.4	31.5	12.6		SWF
	1420	BOUL	45 C	1436 E	1438	3.5D	171 U	57		
	2650	DWIN	4 S/F	1436	1438	4	20	10		
	8800	SGMR	1 S	1437.8	1439.1	4.2	8.6	3.4		SWF
	4995	BOUL	3 S	1437 U	1438	3 U	19 U	6		
	2695	SGMR	3 S	1438.1	1438.9	1.8	18.9	7.6		SWF
	600	UCCL	8 S	1540	1540.2	.4	28	10		
	2800	OTTA	21 GRF	1735	1840	105	3			
	2800	OTTA	1 S	1835	1835.3	1	3.4	1.7		
	9400	HUAN	S	1943.5	2015.6	83.1	13.4	8.3		0
	4995	SGMR	3 S	1944.6	1950.6	7.4	104	41.6		S,SWF
	8800	SGMR	3 S	1946	1950.1	6	39.1	15.6		S,SWF
	2800	OTTA	46F C	1946.4	1951	8.6	126	21.4		
	410	SGMR	7 S	1946.7	1946.8	9.3	285	114		S,SWF
	2695	SGMR	3 S	1946.8	1951.3	5.2	148	59.2		S,SWF
	1420	BOUL	47 GB	1946 E	1950	9 D	4699	1566		
	245	SGMR	7 S	1947.2	1950.1	8.8	203	81.2		S,SWF
	1420	BOUL	8 S	1947.5E	1948	1 D	139	46		
	2695	BOUL	45 C	1947 E	1948	1.5D	33	11		
	7000	SAOP	45 C	1948	1950.8	35	79			43L
	15400	SGMR	3 S	1948.1	1950.8	4.3	36.2	14.5		S,SWF
	4995	BOUL	8 S	1948.5	1950.5	4.5	83	28		
	9400	HUAN	S	1948.7	1950.7	15	66.8	19.1		L
	1415	SGMR	47 GB	1950	1950.3	2.1	11000	4400		S,SWF
	2695	BOUL	28 PRE	1950.5E	1951	1 D	26	9		
	606	SGMR	47 GB	1951	1949.9	2	784	314		S,SWF
	2695	BOUL	8 S	1951.5E	1952	1.5D	132	44		
	1420	BOUL	8 S	1951 E	1951.5	1 D	522	174		
	4995	BOUL	3 S	1952	1952.5	1	11	4		
	2695	BOUL	29 PBI	1953 E	1953.5	1 D	40	13		
	2800	OTTA	29 PBI	1955	1955	8	3.6	1.8		
	9400	HUAN	S	2024.8	2025.6	3	18.4	9.2		L
	4995	BOUL	3 S	2024	2025	3	15	5		
	9400	HUAN	S	2053.4	2053.7	1.8	10	4.8		0
	9400	HUAN	S	2111.5	2130.3	28.3	8.3	2.2		0
	2800	OTTA	1 S	2128.9	2129	3	3	1.5		
	606	SGMR	47 GB	2146	2148.9	5	1840	736		
	410	SGMR	7 S	2146.5	2149.4	6	222	88.8		
	4995	BOUL	3 S	2146.5	2148	2.5	8	3		
	2695	PENT	21 GRF	2146	2210	95	4.6	2.3		
	1415	SGMR	3 S	2147	2148.1	6	163	65.2		
	245	SGMR	48 GB	2147.2	2149.5	4.2	1000	400		
	9400	HUAN	S	2147.6	2149.7	9.5	10	5.4		L
	9400	HUAN		2147.6	2155.8		10.8			
	9400	HUAN		2147.6	2153.1		8.3			
	1420	BOUL	45 C	2147 E	2148.5	3 D	95	32		
	2800	OTTA	4 S/F	2147	2149.2	3.5	30	12		
	2695	BOUL	4 SF	2149 E	2149.5	2 D	54	18		
	2695	PENT	1 S	2205	2207	4	3	1.4		
	9400	HUAN	S	2229	2229.7	2.2	11.7	5.5		0

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	1420	BOUL	3	S	2231.5E	2232	1 D	8	3		
	2695	PENT	1	S	2231	2231.9	2	7.8	2.6		
13	2695	MANI	2	S/F	0034.7	0037	3.5	7.2	4.9		I
	100	HIRA	46	C	0034	0036	4	4500	500		ML
	1415	MANI	4	S/F	0036.3	0037.6	2.1	20.2	13.4		
	200	HIRA	46	C	0238.5	0239	2	450	150		D
	100	HIRA	7	C	0239	0239.2	1	2000	1000		ML
	35000	NAGO	20	GRF	0451	0454	10	19			
	6100	KISV	2	S/F	0619	0619.8	6	3			
	200	GORK	44	NS	0645 E		390		5		
	260	ONDR	44	NS	0820 E		380 D	29			
	127	TORN	43	NS	1000 U	1420.8	270 D	13	1 U		VO
	245	SGMR	44	NS	1148 E	1647	692 D	80			
	410	SGMR	44	NS	1148 E	1708	692 D	157			
	6100	KISV	2	S/F	0658	0659	6	3			
	9100	GORK	21	GRF	0719	0745.1	63	12			
	8400	BERN	3		0742.1	0744.1	4	25			
	10400	BERN	3		0742.1	0744.1	4	17			
	10400	BERN	3	S	0742.1	0744	4	6	17		
	8400	BERN	3	S	0742.1	0744	4	9	25		
	9100	ARCE	3	S	0743.1	0744.3	3				
	9100	GORK	1	S	0743.2	0744	1.6	18	9		
	6100	KISV	4	S/F	0743	0744	2	8			
	6100	KISV	29	PBI	0743	0747	15	4			
	3000	BERL	3	S	0745.5	0747	3.5	11			
	9100	ARCE	2	S/F	0857.1	0857.4	2				
	650	GORK	4	SF	0925.7	0925.9	1.5	70	10		
	536	ONDR	8	S	0935.8	0935.8	.3	41			
	650	GORK	20	GRF	0944.3	0952.8	9.3	9	2		
	100	GORK			0950.6	0953		25 D			
	100	GORK	41	F	0950.6	0950.7	3	25			
	33	UPIC	4	S/F	0952.7	0953.2U	1.3				
	29	UPIC	4	S/F	0952.8	0953.1	.7				
	113	POTS	4	S/F	0952.8	0952.9	.2	700	150		
	6100	KISV	45	C	1005	1008	10	6			
	6100	KISV			1005	1008.5		4			
	9100	GORK	20	GRF	1007.5	1007.9	7.9	7	3.5		
	10400	BERN	27	RF	1030	1217.9	132	5	14		
	8400	BERN	27	RF	1030	1102	132	10	26		
	10400	BERN	27		1030	1217.9	132	14			
	8400	BERN	27		1030	1102	132	26			
	6100	KISV	46	C	1045	1103	25	12			
	9100	GORK	20	GRF	1053.3	1103	52	21	10		
	4995	ATHN	2	GRF	1057.7	1102.1	21.4	18.4	11		
	2695	ATHN	2	GRF	1057.7	1100.5	17.2	9.5	5.7		
	2950	GORK	20	GRF	1057.9	1100	26	8.7			
	1415	ATHN	2	GRF	1058.5	1100.8	15.6	19.1	11.5		
	8800	ATHN	4	S/F	1058.5	1104.7	16.5	53.6	16.1		
	1470	BERL	3	S	1059.5	1100.5	4	13			
	3000	BERL	3	S	1059	1102.2	5	10			
	9500	BERL	20	GRF	1059	1102.8	46	15			
	113	POTS	8	S	1100.5	1100.9	.1	200	70		
	33	UPIC	42	SER	1100.6	1101.2	77.6				
	29	UPIC	42	SER	1100.9	1138.9	76.9				
	950	GORK	45	C	1101.2	1102.5	5.6	14			
	950	GORK			1101.2	1105		5			
	200	GORK	46	C	1128.9	1131.8	10.3	17 D			
	200	GORK			1128.9	1137.5		17			
	200	GORK			1128.9	1136.2		65			
	100	GORK			1130	1137.4		280			
	100	GORK	46	C	1130	1136.1	8.5	380			
	127	TORN	46	C	1130.9	1137.3	8.3	220			
	113	POTS	41	F	1131.5	1136.2	7	200	3		
	200	GORK			1202	1203.9		40			
	200	GORK	45	C	1202	1203	4 D	12			
	9500	BERL	20	GRF	1202	1217	37	15			
	100	GORK			1203	1204.8		230			
	100	GORK	46	C	1203	1204.5	7.5	200			
	650	GORK	1	S	1203	1204.3	2.1	5.5			
	950	GORK	2	SF	1203	1203.3	2.2	6			
	127	TORN	45	C	1203	1204.8	7.5	140	5		
	113	POTS	41	F	1204.4	1204.8	.6	280	2		
	9400	HUAN		S	1214	1216.2	5.5	13.1	9.6		D
	9100	GORK	20	GRF	1214.7	1218	15 D	14			
	8800	ATHN	2	GRF	1214.7	1217	10.3	14.8	10.3		
	4995	ATHN	2	GRF	1216	1217.2	6.7	4.1	6.7		
	536	ONDR	8	S	1228.4	1228.4	.3	68			
	9400	HUAN		S	1230.2	1231.2	4.1	8.2	3.9		D
	1470	BERL	3	S	1232.5	1233.2	2	11			
	3000	BERL	1	S	1232.5	1233.3	1.5	4.2			
	3000	BERL	3	S	1256.5	1257.5	3	11			
	2800	OTTA	21	GRF	1330	1355	155	2.2	1.1		
	9400	HUAN		S	1417.3	1420.2	6.2	26.3	9.4		L
	10400	BERN	3	S	1418.5	1420	7	9	25		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	8400	BERN	3	S	1418.5	1420	7	11	28		
	9500	BERL	3	S	1418.5	1420	4	25			
	8400	BERN	3		1418.6	1420.1	7	28			
	10400	BERN	3		1418.6	1420.1	7	25			
	7000	SAOP	45	C	1419	1420	3.2	30			O
	9100	ARCE	4	S/F	1419.3	1420.5	2.2				
	10715	OWIN	2	S/F	1419	1420	2	15	10		
	9100	ARCE	29	PBI	1421.5		7.2				
	2800	OTTA	1	S	1501.5	1503	2.5	2.4	1		
	2800	OTTA	1	S	1506	1506.5	2	1.4	.7		
	2800	OTTA	20	GRF	1540	1543	20	2.2	1.1		
	9400	HUAN		S	1605.8	1606.6	3.5	8.2	4.3		O
	2800	OTTA	240	R	1620	1627	7	2	1		
	9400	HUAN		S	1737.7	1953.7	245.7	41	26.8		O
	2695	PENT	240	R	1707	1720	13	2.6	1.3		
	2800	OTTA	21	GRF	1740	1940	230	9.2	6		
	2800	OTTA	20	GRF	1750	1755	15	3.4	1.9		
	9400	HUAN		S	1847.8	1849.6	4.7	16.4	9.8		R
	7000	SAOP	3	S	1848	1849.6	6.4	11			O
	2800	OTTA	1	S	1904	1904.5	1	2.6	1.3		
	9400	HUAN		S	1920	1920.6	1.8	14.8	9		R
	7000	SAOP	3	S	1944	1945.5	1.4	10.5			C
	9400	HUAN			1944.5	1946.8		15.6			
	9400	HUAN		C	1944.5	1945.6	3.1	16.4	6.8		O
	1415	SGHR	3	S	1956.1	1957.8	3	10	2		SWF
	2800	OTTA	2	S/F	1956.5	1959.9	2.5	9.8	4.8		
	606	SGHR	3	S	1957	1957.1	1.2	253	76		SWF
	7000	SAOP	45	C	1957	1957.6	1.8	17			35R
	9400	HUAN		S	1957.4	1958	1.3	14.8	8.5		R
	410	SGHR	6	S	1957.8	1958.1	.7	15	3		SWF
	1420	BOUL	1	S	1957 E	1958	2 D	4	1		
	2695	BOUL	3	S	1958 E	1959	2 D	13	4		
	9400	HUAN		S	2035.2	2035.8	1.8	9.8	4.4		O
	2695	PENT	21	GRF	2200	2230	75	5.2	2.6		
	2695	PENT	22	GRF	2215	2219.5	12	6.8	3.4		
14	260	ONDR	44	NS	0806 E		405 D	10			
	127	TORN	43	NS	1020 U	1052.7	250 D	32	.5U		VO
	536	ONDR	41	F	0933.5	0934.5	2	10			
	33	UPIC	8	S	0934.7	0935	.7				
	29	UPIC	8	S	0935	0935.3	.5				
	6100	KISV	4	S/F	0946	0947.2	4	4			
	33	UPIC	8	S	1136.9	1137.2	.6				
	29	UPIC	8		1137.1	1137.4	.4				
	9100	GORK	1	S	1139.9	1140.5	2.8	5.5	2.5		
	10400	BERN	21	GRF	1140.5	1201.8	85	4	11		
	8400	BERN	21	GRF	1140.5	1201.8	85	4	10		
	8400	BERN	21		1140.5	1201.8	85	10			
	10400	BERN	21		1140.5	1201.8	85	11			
	9100	GORK	1	S	1150.6	1154.8	5.8	5.5	2.5		
	1470	BERL	1	S	1150.8	1151.1	.7	2.2			
	9400	HUAN		S	1153.7	1201.7	16	12.3	4.4		R
	9100	GORK	1	S	1200.8	1202	5.7	11.5	5.5		
	10715	OWIN	1	S	1200	1202	3	10	8		
	9500	BERL	3	S	1201	1202	3	16			
	536	ONDR	41	F	1302	1306.2	6	136			
	410	SGHR	6	S	1303	1303.7	5.3	58.6	17.6		
	1415	SGHR	3	S	1305	1307.3	3	13	3.9		
	606	SGHR	3	S	1306	1306.6	1.4	396	119		
	3000	BERL	1	S	1306.5	1306.6	1.5	5.3			
	2800	OTTA	2	S/F	1306.5	1306.7	1.5	4.4			
	1470	BERL	4	S/F	1306.6	1306.9	1.4	6.1			
	930	BORD	45	C	1306	1307.4	1.5	16	2		
	9400	HUAN		S	1321	1436.2	131.5	15.8	7		R
	33	UPIC	8	S	1325.1	1325.4	.5				
	29	UPIC	8	S	1325	1325.2	.5				
	606	SGHR	3	S	1341	1342.2	10.8	10.5	3.2		
	2695	SGHR	3	S	1341.5	1341.9	.7	17.2	5.2		
	536	ONDR	41	F	1342.5	1343.3	2	21			
	1415	SGHR	1	S	1344.7	1345.5	1.3	7.8	2.3		
	2800	OTTA	1	S	1358	1358.5	1	2.2	1		
	2800	OTTA	21	GRF	1515	1641	285	23.8	11.1		
	9100	ARCE	1	S	1528.3	1528.5	1.1				RECORD DISTURBE
	4995	BOUL	20	GRF	1530	1642.5	117.5	49	16		
	2800	OTTA	40	F	1537.5	1602	35	12.6			
	2695	SGHR	45	C	1545.5	1636.4		17.6			SWF
	2695	SGHR	45	C	1545.5	1549.1	142.5	9.4	5.2		SWF
	4995	SGHR	45	C	1547	1635.4		27.4			SWF
	4995	SGHR	45	C	1547	1555.1	141	11.5	8.2		SWF
	8800	SGHR	45	C	1548.7	1553	139.3	9.5	6.2		SWF
	8800	SGHR	45	C	1548.7	1635		20.5			SWF
	2695	BOUL	20	GRF	1549 E	1645 U	101 D	19	6		
	9400	HUAN		S	1601.7E	1638.2	225.4	47.3	18		R
	606	SGHR	1	S	1603.4	1608.7	9.1	9.5	2.9		
	930	BORD	3	S	1603.7	1603.7	.3	20	2		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22}Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	410	SGMR	6	S	1603.9	1608.2	7.1	73.9	22.2		
	9400	HUAN		S	1755.5	1759.6	6.1	8.8	5.6		O
	2800	OTTA	2	S/F	1756	1758	3	3.4	.8		
	245	SGMR	48	GB	1851.9	1852	.5	964	289		S
	410	SGMR	7	S	1851.9	1852	.5	455	137		S
	9400	HUAN		S	1858.2	1859.1	1.9	12.3	5.3		O
	9400	HUAN		S	1936.5	1937.4	1.7	7	1.8		O
15	200	GORK	43	NS	0536		315 E		5		
	127	TORN	44	NS	0720 E	1023.3	430 D	32	1.5		VO
	260	ONDR	44	NS	0752 E		396 D	67			
	245	SGMR	44	NS	1145 E	1207	625 D	51.8			
	410	SGMR	44	NS	1145 E	1409.6	625 D	67.6			
	100	GORK	41	F	0742	0742.2	21	25			
	100	GORK			0742	0801.4		30 D			
	100	GORK			0742	0750		25 D			
	113	POTS	42	SER	0749.3	0749.5	17	105	1		
	100	GORK			0825	0836.8		30			
	100	GORK	41	F	0825	0825.5	13	30 D			
	113	POTS	42	SER	0825.4	0825.4	6.1	100	1		
	15000	KISV	20	GRF	0840	0850	15	12			
	6100	KISV	20	GRF	0840	0855	65	4			
	536	ONDR	42	SER	0856	0857.6	3.5	39			
	100	GORK			0924	0926.2		35 D			
	100	GORK	41	F	0924	0924.4	5.7	35 D			
	100	GORK			0924	0927.3		35			
	100	GORK			0944.7	0945.4	14	35			
	100	GORK			0944.7	0952.2		30 D			
	100	GORK			0944.7	0945.9		30			
	234	POTS	41	F	0955.6	0955.7	.8	160	4		
	930	BORD	46	C	1132	1132.3	.4	20	2		
	260	ONDR	8	S	1138.8	1138.8	.4	135			
	234	POTS	8	S	1139.2	1139.3	.2	500	175		
	113	POTS	8	S	1139.3	1139.3	.1	110	35		
	600	UCCL	1	S	1155.5	1156	1	8	4		
	930	BORD	41	F	1156.8	1200.5	5.2	31	3		
	2800	OTTA	23	GRF	1522	1619.4	155	15.2	6.6		
	9400	HUAN		S	1553.7	1555.7	5.6	14.3	6.6		R
	7000	SAOP	3	S	1554	1555.6	2.8	13.5			
	4995	BOUL	45	C	1713.5	1715.5	7	49	16		
	4995	BOUL	8	S	1713.5	1714	1 U	44	15		
	9400	HUAN		C	1713.8	1714.8	8.6	76.1	27.2		R
	9400	HUAN			1713.8	1715.8		74.5			R
	4995	SGMR	3	S	1713.8	1715.9	4.7	137	54.8		SWF
	7000	SAOP	45	C	1714	1714.9	4	101			
	8800	SGMR	3	S	1714.2	1714.9	3.8	80.9	32.4		SWF
	2695	SGMR	3	S	1714.2	1716.3	4.3	139	55.6		SWF
	1420	BOUL	45	C	1714.5E	1716.5	5 D	72	24		
	410	SGMR	3	S	1714.5	1716.6	2.5	166	66.4		SWF
	1420	BOUL	3	S	1714.5E	1715.5	1 U	30	10		
	2800	OTTA	45	C	1714	1716.3	10	130	31		
	15400	SGMR	3	S	1715	1716.9	2	46.1	18.4		SWF
	2695	BOUL	45	C	1715 E	1717	7.5D	132	44		
	2695	BOUL	3	S	1715 E	1716	1 U	47	16		
	1420	BOUL	29	PBI	1719	1719	21 D	25	8		
	2800	OTTA	29	PBI	1724	1724	8	5.6	2.8		
	9400	HUAN		S	1744.5	1744.8	3.1	23.8	8.9		RLR
	9400	HUAN		S	1943.4	2045.5	93.8	12.7	5.7		O
	2800	OTTA	20	GRF	2030	2053	52	5	2.5		
	2695	PENT	22	GRF	2128	2157	92	14.6	5.7		
	1420	BOUL	3	S	2252 E	2252.5	1.5D	8	3		
16	2930	VORO	42	SER	0140	0227	150	216			
	5730	IRKU			0141	0151.2		609			R
	5730	IRKU			0141	0150.4		569			R
	5730	IRKU			0141	0147.7		165			R
	5730	IRKU	47	GB	0141	0145.6	28	23			R
	5730	IRKU			0141	0202.7		67			R
	5730	IRKU			0141	0201.3		67			R
	5730	IRKU			0141	0153.5		468			R
	2695	MANI	47	GB	0141.8	0229.3	134	30000	7000		
	1415	MANI	47	GB	0143	0231.6	133	88000 1	5000		
	606	MANI	47	GB	0145.8	0229.9	130.8	3000	700		
	500	HIRA			0146.6	0345.2		50			ML
	500	HIRA			0146.6	0306.6		110			ML
	500	HIRA			0146.6	0245.1		500			SL
	500	HIRA			0146.6	0231.1		880			SL
	500	HIRA	48	C	0146.6	0153.4	150	450	150		ML
	35000	NAGO	47	GB	0147	0151	12	850			
	8800	MANI	4	S/F	0148.4	0151.6	10.9D	465 D	154.2D		IG,SCNA
	200	HIRA	48	C	0148	0150.5	182	64000 D	100		ML
	200	HIRA			0148	0303		600			ML
	200	HIRA			0148	0228		80			ML
	100	HIRA			0150	0228		180			O
	100	HIRA	48	C	0150	0151.5	95	40000 D	500		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
16	35000	NAGO	29	PBI	0159	0159	97	140			
	5730	IRKU	2	S	0220.3	0225.5	20	137	37		R
	5730	IRKU	29	PBI	0240		20	23	9		R
	5730	IRKU	45	C	0301	0304.6	30	18	6		R
	5730	IRKU			0301	0316.1		15			R
	5730	IRKU			0301	0315.7		14			R
	100	GORK	43	NS	0534		120		5		
	202	IZMI	43	NS	0700		300	50			
	127	TORN	44	NS	0720 E	1140.3	430 D	11	1.5		V0
	260	ONDR	44	NS	0753 E		417 D	152	8		
	245	SGMR	44	NS	1144 E	1526.1	628 D	610			
	410	SGMR	44	NS	1144 E	1530	628 D	820			
	606	SGMR	43	NS	1446	1525.6	258	12			
	1415	SGMR	43	NS	1446	1504.3	258	250			
	100	GORK	41	F	0539.6	0539.7	1.7	90 D			
	100	GORK			0539.6	0540.8		175			
	100	GORK	8	S	0548	0548.1	.3	90 D			
	100	GORK			0554.3	0557		90			
	100	GORK			0554.3	0555.1		70			
	100	GORK	41	F	0554.3	0554.5	3	55			
	100	GORK	41	F	0616.3	0617.2	11	90 D			
	100	GORK			0616.3	0626		260			
	100	GORK			0616.3	0623		380			
	100	GORK			0616.3	0621		1180			
	650	GORK	41	F	0730.7	0731.4	2.9	44			
	650	GORK			0730.7	0733.2		5			
	1470	BERL	41	F	0742	0747	5.5	102			
	930	BORD	41	F	0746	0747.6	1.6	37	2		
	1470	BERL	40	F	0801	0803.5	7	23			
	6100	KISV	20	GRF	0843.4	0844	12	3			
	15000	KISV	20	GRF	0843	0844	12	10			
	9100	GORK	20	GRF	0844	0844.3	15.4	8	2.5		
	1470	BERL	41	F	0901	0902.5	2	18			
	950	GORK	2	SF	0917.7	0919.6	2	9			
	930	BORD	8	S	0919.4	0919.4	.1	24	2		
	234	POTS	8	S	0931.3	0931.3	.1	230	80		
	6100	KISV	8	S	0956.5	0957	2	3			
	930	BORD	41	F	0959.5	0959.8	.9	21	3		
	234	POTS	41	F	1005.5	1006.4	1.4	160	2		
	113	POTS	41	F	1005.6	1006.5	1.4	3500	85		
	930	BORD	41	F	1038.7	1039	3.3	77	5		
	100	GORK	8	S	1040.3	1040.8	.8	260			
	930	BORD	46	C	1103.4	1103.7	.6	28	2		
	100	GORK			1105 U	1119		245			
	100	GORK			1105 U	1113.4		6600			
	100	GORK	41	F	1105 U	1109.4	14.5	2260			
	9100	GORK	1	S	1105.8	1108.5	6.1	12	6		
	6100	KISV	45	C	1105	1108.3	10	9			
	15000	KISV	4	S/F	1105	1108	5	12			
	1470	BERL	41	F	1106	1110	9	81			
	950	GORK	4	SF	1106.8	1108.8	7.7	335			
	2950	GORK	20	GRF	1107.2	1108.3	11.3	15	7.5		
	650	GORK	22	GRF	1107.4	1110.7	9	8	3		
	127	TORN	47	GB	1107.4	1109.2	6.5	510	60		
	202	IZMI	41	F	1107.5	1107.8	6	370			
	3100	CRIM			1107.5	1114		4			
	3100	CRIM			1107.5	1111		4			
	3100	CRIM	45	C	1107.5	1108.5	9	6			
	9500	BERL	1	S	1107.5	1108.2	1.5	6.3			
	3000	BERL	20	GRF	1107	1108.2	8	8.9			
	808	ONDR	45	C	1107	1110.3	8	20	5		
	113	POTS	42	SER	1108.4	1113.2	11	2500	20		
	234	POTS	42	SER	1108.7	1109.2	10	210	1		
	536	ONDR	41	F	1108.7	1113	10.5	8	2.9		
	33	UPIC	45	C	1109.8		2.6				
	930	BORD	46	C	1110 E	1110.1	1 D	28	2		
	33	UPIC	4	S/F	1113.1	1113.6	1.3				
	650	GORK	1	S	1118	1118.4	1.5	3.5			
	650	GORK	1	S	1130	1130.7	5.6	5			
	1470	BERL	8	S	1131.3	1131.5	.3	14			
	808	ONDR	46	C	1154.5	1157.7	5	65	31		
	234	POTS	8	S	1211.5	1211.6	.1	250	80		
	930	BORD	41	F	1215	1215.3	1	28	2		
	930	BORD	41	F	1219.8	1220.2	.6	18	2		
	9400	HUAN		S	1224.8	1225.3	2	26.1	12.7		L
	113	POTS	41	F	1226	1226.5	.6	175	5		
	100	GORK	41	F	1226.2	1226.2	.7	125			
	100	GORK			1226.2	1226.7		245			
	536	ONDR	8	S	1227.5	1227.5	.2	27			
	100	GORK			1243.2	1243.4	17	80			
	100	GORK			1243.2	1258.3		2600			
	100	GORK			1243.2	1256.7		2600			
	100	GORK			1243.2	1251.8		220			
	7000	SAOP	45	C	1244	1256.7		469			19R
	9500	BERL	4	S/F	1245	1256.7	19	400			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
16	2650	DWIN	4	S/F	1246	1246	1	35	20		
	2695	ATHN	14	C	1247	1256.6	15.9	159.4	47.8		
	1470	BERL	46	C	1247	1257	13	1830			
	3000	BERL	45	C	1247	1256.5	16	132			
	4995	ATHN	14	C	1247	1256.6	16	241.5	72.5		
	1415	ATHN	15	GB	1247	1256.5	13.8	7262.5	2178.8		
	9400	HUAN		C	1247.4	1256.9	28.1	416.6	124.2		R
	8800	ATHN	15	GB	1247.4	1247.4	16	646.8	194.1		
	930	BORD	46	C	1247	1247.8	13	1712	25		
	600	UCCL	46	C	1251	1252	7	78	20		
	650	GORK	4	SF	1253.6	1256.5	6	55	19		
	127	TORN	45	C	1254.4	1255.8	7 U	470	70		
	950	GORK	4	SF	1254.6	1256.8	4.8	204			
	4995	SGMR	3	S	1254.8	1256.3	7.3	258	103		5
	410	SGMR	6	S	1254.9	1257.6	6.7	54.3	21.7		5
	10715	DWIN	45	C	1254	1256	9	300 D			
	2650	DWIN	45	C	1254		7	110 D			
	2800	OTTA	4	S/F	1254	1257	8	122.4	32.4		
	2695	SGMR	3	S	1255	1257.2	6.4	175	70		5
	10400	BERN	46	C	1255.1	1256.7	17	126	376		
	33	UPIC	46	C	1255.1	1256.7U	4.3				
	113	POTS	45	C	1255.1	1258.6	3.7	5000	70		
	234	POTS	4	S/F	1255.1	1255.7	1.8	230	15		
	606	SGMR	3	S	1255.2	1257	4.8	67.2	26.9		5
	10400	BERN	46		1255.2	1256.8	17	376			
	2950	GORK	4	SF	1255.3	1257	4.8	188			
	15400	SGMR	3	S	1255.5	1256.8	6.4	293	117		5
	245	SGMR	6	S	1255.6	1256.1	4	207	82.8		5
	29	UPIC	46	C	1255.8	1257.6	2.7				
	8800	SGMR	3	S	1255.8	1256.6	6.8	478	191		5
	536	ONDR	4	S/F	1255	1256.6	6.5	32	21		
	2800	OTTA	20	GRF	1325	1335.5	40 D	6.6			
	9400	HUAN		S	1331.8	1345.5	25.8	5.2	2.6		R
	930	BORD	41	F	1333	1334.6	3	55	2		
	33	UPIC	2	S/F	1334.2	1334.9	2.7				
	29	UPIC	2	S/F	1334.2	1335.2	1.3				
	930	BORD	41	F	1356.7	1356.7	.6	14	2		
	113	POTS	41	F	1411.3	1413.1	2.2	1000	20		
	9400	HUAN		S	1442.8	1535.8	82	7	6.7		R
	9400	HUAN		S	1444	1445.3	1.8	8.7	5.2		R
	606	SGMR	1	S	1444.2	1444.8	2.4	6.3	2.5		
	1415	SGMR	3	S	1444.6	1445.3	1.5	256	102		
	1420	BOUL	45	C	1444 E	1445	2 D	206	69		
	930	BORD	46	C	1444	1445.5	2	268	25		
	410	SGMR	3	S	1445.1	1445.3	1	75.3	30.1		
	2800	OTTA	1	S	1445.2	1446	2	4.4	2.2		
	930	BORD	45	C	1450	1450.5	1.5	34	5		
	1420	BOUL	45	C	1450 E	1450.5	1.5D	72	24		
	1420	BOUL	8	S	1454 E	1454	.5D	33	11		
	9400	HUAN		S	1503.2	1504.2	1.6	10.4	5.5		R
	1420	BOUL	8	S	1503.5E	1504	1.5D	273	91		
	930	BORD	45	C	1504	1504.4	.8	278	15		
	2800	OTTA	1	S	1504	1504.5	1	4.4	2.2		
	930	BORD	41	F	1511	1512	1.4	24	3		
	1415	ATHN	3	S	1519.4	1519.9	.8	42.4	12.7		
	10400	BERN	1	S	1519.4	1519.8	1	7	20		
	7000	SAOP	8	S	1519.5	1519.8	.6	42			33R
	10400	BERN	1		1519.5	1519.8	1	20			
	9400	HUAN		S	1519.5	1519.8	1.1	17.4	8.4		R
	930	BORD	46	C	1519.5	1519.8	.8	85	9		
	1420	BOUL	45	C	1519.5E	1600	1 D	49	16		
	4995	ATHN	3	S	1519.6	1519.9	1.3	27.3	8.2		
	2695	ATHN	3	S	1519.6	1519.8	.9	13.3	4		
	8800	ATHN	3	S	1519.7	1519.8	1.1	28.7	8.6		
	4995	BOUL	8	S	1519	1519.5	1	24	8		
	2695	BOUL	3	S	1520.5E	1520.5	.5D	13	4		
	1420	BOUL	3	S	1524 E	1524.5	1 D	9	3		
	2800	OTTA	1	S	1534.5	1535	1	3.4	1.7		
	7000	SAOP	1	S	1535	1535.5		8.5			59R
	930	BORD	45	C	1541.4	1541.6	.6	70	2		
	9400	HUAN		S	1620.2	1635.2	27.9	10.5	8.3		R
	2800	OTTA	20	GRF	1620	1628.5	40	9.6	3.2		
	7000	SAOP	20	GRF	1625			12			33R
	606	SGMR	45	C	1720.2	1720.3	49.6	18			3S,SWF
	606	SGMR	45	C	1720.2	1734.3		16			3S,SWF
	606	SGMR	45	C	1720.2	1755		26	5		3S,SWF
	4995	BOUL	8	S	1720.5	1721	2	24	8		
	7000	SAOP	46	C	1721	1722.2	1	38			49R
	9400	HUAN		S	1721.3	1729.7	11.1	15.7	9.7		D
	9400	HUAN		S	1721.8	1722.1	1	26.1	13.1		R
	4995	SGMR	45	C	1721.8	1722	50.4	32	26		3S,SWF
	4995	SGMR	45	C	1721.8	1734.5		88			3S,SWF
	4995	SGMR	45	C	1721.8	1754.8		31			3S,SWF
	2800	OTTA	40	F	1721	1735	15	56.8			
	1415	SGMR	45	C	1722	1734.2		433			3S,SWF

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
16	1415	SGMR	45 C	1722	1722.4	55.4	68	88		3S,SWF
	1415	SGMR	45 C	1722	1755.1		94			3S,SWF
	8800	SGMR	45 C	1722	1734.7		102			3S,SWF
	8800	SGMR	45 C	1722	1722.3	51.8	27	31		3S,SWF
	245	SGMR	49 C	1722.1	1722.5	47.7	1230	246		3S,SWF
	245	SGMR	49 C	1722.1	1741.6		480			3S,SWF
	2695	SGMR	45 C	1722.4	1754.3		46			3S,SWF
	2695	SGMR	45 C	1722.4	1735.2		56			3S,SWF
	2695	SGMR	45 C	1722.4	1722.7	50.6	14	11		3S,SWF
	2695	BCUL	3 S	1722.5E	1723	1 D	20	7		
	7000	SAOP	46 C	1723.4	1725	2.6	18			28R
	9400	HUAN	S	1724.1	1725.2	1.7	10.4	7.6		0
	1420	BCUL	3 S	1724 E	1724.5	1 D	60	20		
	7000	SAOP		1728	1731.4		18			33R
	15400	SGMR	3 S	1730	1734.7	43	112	34		3S,SWF
	1420	BOUL	42 SER	1731 E	1735	5 D	405	135		
	4995	BOUL	8 S	1733.5	1734	2	70	23		
	9400	HUAN	S	1733.7	1734.7	3	97.6	25.5		R
	7000	SAOP	4 S/F	1734	1734.8	1	100			26R
	2695	BOUL	8 S	1735 E	1735.5	1 D	71	24		
	7000	SAOP	3 S	1740.7	1741.5	1.2	11			46R
	1420	BOUL	8 S	1742 E	1742	.5D	36	12		
	9400	HUAN	S	1750.4	1755.2	14.2	13.9	3.9		R
	4995	BOUL	4 SF	1751	1754.5	7.5	24	8		
	2800	OTTA	4 S/F	1751	1755.1	6	29.4	7.6		
	1420	BOUL	4 SF	1754.5E	1755.5	2.5D	83	28		
	2695	BCUL	4 SF	1755.5E	1756	1.5D	35	12		
	2800	OTTA	30 PBI	1758	1758	19	4.4	2.4		
	2800	OTTA	40 F	1805.8	1809	7	79			
	2800	OTTA	31 ABS	1818	1827	26	-4.2	-2.1		
	9400	HUAN	S	1823.2	1840	23.5	15.7	11.7		0
	9400	HUAN	S	1850.4	1903.5	25.5	17.4	7.5		0
	9400	HUAN	S	1859.5	1900.5	2.6	55.8	19.4		R
	4995	SGMR	3 S	1859.8	1900.2	2.3	32.5	13		
	4995	BOUL	8 S	1859	1900	2	27	9		
	7000	SAOP	4 S/F	1900	1900.4	2	52			29R
	410	SGMR	6 S	1900	1900.4	1.2	90.5	36.2		
	245	SGMR	48 GB	1900.1	1900.5	1.3	1330	532		
	15400	SGMR	3 S	1900.1	1900.4	2.1	40.9	16.4		
	606	SGMR	3 S	1900.1	1900.6	1.4	10.3	4.1		
	8800	SGMR	3 S	1900.1	1900.4	1.7	46.2	18.5		
	2695	SGMR	3 S	1900.2	1900.6	1.7	14.8	5.9		
	1415	SGMR	3 S	1900.2	1901	1.4	43.4	17.4		
	2800	OTTA	3 S	1900	1900.4	2	13.6	4.6		
	1420	BCUL	3 S	1900 E	1905	1 D	25	8		
	2695	BOUL	3 S	1901 E	1901.5	1.5D	14	5		
	9400	HUAN	C	1950.3	1956	9.4	87.2	30.8		R
	9400	HUAN		1950.3	1956.5		99.4			R
	7000	SAOP	1 S	1952	1952.6		9.5			80R
	1415	SGMR	3 S	1952	1955.6	5.5	62	24.8		5
	606	SGMR	3 S	1952	1956	5.5	11.4	4.6		5
	245	SGMR	7 S	1952.2	1956.1	5.3	482	193		5
	2800	OTTA	1 S	1952	1952.7	1	4.4	2.2		
	410	SGMR	6 S	1953	1953.2	4.5	113	45.2		5
	2695	SGMR	3 S	1954	1954.9	3.5	25.2	10.1		5
	4995	SGMR	3 S	1954	1955.5	3.5	61.6	24.6		5
	8800	SGMR	3 S	1954.8	1955.7	2.7	80.9	32.4		5
	15400	SGMR	3 S	1955	1956.1	2.5	74.2	29.7		5
	7000	SAOP	46 C	1955	1956.4	1.8	104			25R
	2800	OTTA	4 S/F	1955.5	1956	3	26.2	11.4		
	1420	BOUL	4 SF	1955 E	1956.5	2 D	45	15		
	4995	BOUL	45 C	1955	1955.5	2.5	58	19		
	2695	BOUL	3 S	1956.5E	1957.5	2 D	28	9		
	9400	HUAN	S	2030.2	2031	1.8	7	4.7		R
	9400	HUAN	S	2050.2	2051.3	1.9	10.4	5.2		R
	2800	OTTA	4 S/F	2050.3	2051.5	2.5	56.8	19		
	606	SGMR	3 S	2050.5	2051	2.5	10.5	2		
	1415	SGMR	47 GB	2050.5	2051	2.5	1860	370		
	4995	SGMR	1 S	2050.5	2051.1	2.7	7	1		
	1420	BOUL	47 GB	2050.5E	2051	2 D	926	309		
	2800	OTTA	21 GRF	2050	2113	40	3.8	2		
	2695	SGMR	2 S	2051	2052	1.9	57	12		
	2695	BOUL	4 SF	2051.5E	2052.5	1.5D	81	27		
	2800	OTTA	1 S	2055	2055.5	1.5	2.6	1.3		
	9400	HUAN	S	2124.4	2125.3	1.8	12.2	9.6		0
	9400	HUAN		2132.2	2141.8		80.2			R
	9400	HUAN	C	2132.2	2140.8	31.8	83.7	30.2		R
	9400	HUAN		2132.2	2143.6		85.4			R
	8800	SGMR	3 S	2139.5	2140.9	12.5	104	21		3S
	4995	BOUL	45 C	2139	2143	16	39	13		
	1415	SGMR	3 S	2140	2143.8	14	370	75		3S
	2800	OTTA	40 F	2140.2	2140.3	1.5	12.2			
	606	SGMR	3 S	2140.5	2141	5	22	4.4		3S
	2800	OTTA	21 GRF	2140	2142	28	4.6	2.3		
	1420	BOUL	42 SER	2141 E	2143.5	12 D	116	39		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	4995	SGMR	3	S	2143	2143.5	8.2	31	6		3S
	2695	SGMR	3	S	2143.1	2144.2	4.8	98	20		3S
	2800	OTTA	4	S/F	2143.2	2143.9	3	102	19		
	410	SGMR	6	S	2143.5	2143.9	1.5	96	19.2		3S
	2695	BOUL	8	S	2144 E	2144.5	1 D	106	35		
	245	SGMR	7	S	2145	2145.1	.4	340	68		3S
	4995	BOUL	4	SF	2149.5	2150	1.5	33	11		
	2695	PENT	4	S/F	2150.2	2150.5	3	13.2	4.4		
	2695	PENT	1	S	2158.8	2159.2	1	5.6			
	2695	PENT	8	S	2214.2	2214.2	.1	6.8			
	4995	BOUL	45	C	2217.5	2218.5	4	15	5		
	1420	BOUL	47	GB	2217 E	2221	10.5D	1643	548		
	9400	HUAN		S	2218.3	2236.3	26.6	22.7	13.7		Q
	2695	PENT	40	F	2218	2221.8	10	166			
	2695	BOUL	40	F	2219 E	2222.5	8 D	149	50		
	9400	HUAN		S	2221	2221.5	1.5	8.7	7.7		Q
	4995	BOUL	8	S	2234.5	2235	1.5	43	14		
	9400	HUAN	8	S	2235	2235.4	1	134.3	51		R
	2695	MANI	4	S/F	2235.3	2235.6	.6	128.1	85.4		IG
	606	MANI	4	S/F	2235.3	2235.6	1.1	44.7	29.8		
	1415	MANI	47	GB	2235.3	2235.5	2.2	2500	950		
	1420	BOUL	47	GB	2235 E	2235.5	2.5D	1856	619		
	2695	PENT	3	S	2235	2235.7	1	189	94		
	2695	BOUL	8	S	2236 E	2236.5	1 D	165	55		
	9400	HUAN		S	2248.7	2253.1	8.6	113.4	67.8		R
	4995	BOUL	8	S	2251.5	2252.5	1.5	46	15		
	2695	PENT	40	F	2252.5	2254.7	13	66			
	2695	BOUL	42	SER	2253.5E	2256	12 D	50	17		
	35000	NAGO	22	GRF	2253	2253	20	9			
	1420	BOUL	47	GB	2254 E	2255	7 D	1150	383		
	1420	BOUL	45	C	2301 E	2304	7.5D	454	151		
17	2930	VORO	42	SER	0020	0025	35	230			
	2695	PENT	8	S	0021	0021	.1	24.6			
	35000	NAGO	28	PRE	0021	0030	9	13			
	2695	PENT	4	S/F	0022.7	0023.8	2	430	132.8		
	500	HIRA	46	C	0029.7	0030.1	6	1000	350		ML
	100	HIRA	46	C	0029.8	0030	2	40000 D	5000		
	606	MANI	4	S/F	0029.8	0030.2	5.9	160.9	107.3		
	1415	MANI	4	S/F	0030	0030.4	2 D	12.7D	4.2D		I
	35000	NAGO	5	S	0030	0031	4	100			
	35000	NAGO	29	PBI	0034	0039	15	20			
	606	MANI	2	S/F	0051	0051.5	2.4	6	2		
	1415	MANI	4	S/F	0051.3	0051.7	.6D	12.7D	4.2D		
	200	HIRA	43	NS	0215	0620	365 D	40	15		ML
	100	GORK	44	NS	0529 E		415 E		10		
	221	ABST	44	NS	0600	0829.8	180	38			
	202	IZMI	44	NS	0700		300	35			
	127	TORN	44	NS	0720 E	1048.6	460 D	70	20		V1
	260	ONDR	44	NS	0740 E		436 D	168	15		
	410	SGMR	44	NS	1142 E	2140.8	631 D	59			S,CONT
	245	SGMR	44	NS	1142 E	1253.1	631 D	284			S,CONT
	200	HIRA	44	NS	2130 E	0245	650 D	240	120		ML
	100	HIRA	44	NS	2130 E	0440	650 D	700	150		SL
	2930	VORO	42	SER	0225	0037	50	315			
	606	MANI	4	S/F	0233	0234.6	11	104.3	30		
	500	HIRA	46	C	0233.2	0237.4	9	35	15		ML
	1415	MANI	47	GB	0234.7E	0235.2	11.7D	3600	1200		
	8800	MANI	4	S/F	0234.7E	0237.7	5.4D	265.8	105		IG
	2695	MANI	4	S/F	0234.7E	0235.2	11.8D	461.9	150		
	35000	NAGO	22	GRF	0234	0241	23	22			
	35000	NAGO	5	S	0236	0238	4	192			
	1415	MANI	4	S/F	0311.6	0312	1.1	21.2	7.1		
	2695	MANI	4	S/F	0311.6	0312	1.4	163.9	109.2		
	1415	MANI	4	S/F	0403.4	0404	2	41.2	13.7		I
	1415	MANI	4	S/F	0436.5	0437	3.5	39.4	13.1		
	2695	MANI	4	S/F	0436.7	0437.3	3.3	28.6	9.5		
	9100	GORK	20	GRF	0622.4	0625.4	9.2	6	2.5		
	9100	GORK	1	S	0644.7	0646	4	8.5	4		
	6100	KISV	8	S	0658.5	0659	2	4			
	234	POTS	41	F	0713.7	0715	1.6	525	6		
	6100	KISV	8	S	0750	0750.5	1	6			
	9100	GORK	21	GRF	0801.8	0820.7	37.2	14.5	4.5		
	8400	BERN	23		0802	0819.6	26	56			9R
	10400	BERN	23	GRF	0802	0819.5	26	16	47		
	8400	BERN	23	GRF	0802	0819.5	26	21	56		
	10400	BERN	23		0802	0819.6	26	47			
	2950	GORK	21	GRF	0809.7	0813.6	16	12	6		
	127	TORN	47	GB	0809.8	0810.6	4.5	600			
	1470	BERL	3	S	0810	0811	1.5	15			
	1415	MANI	3	S	0810	0811	2.6	17.9	5.9		
	606	MANI	3	S	0810	0813.9	4.3	17.3	5.7		
	100	GORK			0810	0810.8		2160 D			
	100	GORK	45	C	0810	0810.6	1.6	2160 D			
	950	GORK			0810.1	0813.9		6.5			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	950	GORK	45	C	0810.1	0810.9	3.4	9			
	113	POTS	46	C	0810.2	0810.8	7.6	1800	20		
	650	GORK	45	C	0810.3	0811	5.9	10			
	650	GORK			0810.3	0813.8		6.5			
	33	UPIC	42	SER	0810.5	0811.1	3.9				
	3000	BERL	3	S	0810.5	0810.9	1	14			
	9500	BERL	3	S	0810.5	0811.7	2.7	13			
	234	POTS	41	F	0810.6	0810.8	3.4	245	4		
	29	UPIC	42	SER	0810.6	0811	3.5				
	2950	GORK	3	S	0810.6	0810.8	.8	30	15		
	2695	MANI	4	S/F	0810.6	0810.9	1.4	28.6	9.5		
	2650	DWIN	2	S/F	0810	0810	1	30	20		
	9100	ARCE	28	PRE	0816.5		2				
	6100	KISV	45	C	0817	0820	13	14			
	6100	KISV			0817	0819		10			
	9100	GORK	2	SF	0818	0819.6	2.7	27	9.5		
	9100	ARCE	45	C	0818.5	0819.9	3.7				
	9500	BERL	3	S	0818.5	0819.6	3	27			
	9100	GORK	1	S	0859.4	0900.3	3.2	5.5	2		
	1470	BERL	4	S/F	0901	0902.4	2.5	41			
	1470	BERL	1	S	0919.5	0919.9	.6	3.3			
	234	POTS	8	S	0949	0949.2	.3	500	150		
	1470	BERL	8	S	0955.8	0956	.6	21			
	2650	DWIN	2	S/F	1002	1002	1	30	10		
	202	IZMI	41	F	1040.6	1043	5.2	370			
	6100	KISV	46	C	1105	1119	45	6			
	10400	BERN	1	S	1218.5	1219.2	5	4	11		
	8400	BERN	1	S	1218.5	1219.2	5	4	10		
	8400	BERN	1		1218.6	1219.3	5	10			
	10400	BERN	11		1218.6	1219.3	5	11			
	10400	BERN	23	GRF	1240.2	1253.2	40	6	17		
	8400	BERN	23	GRF	1240.2	1253.2	40	6	15		
	8400	BERN	23		1240.3	1253.2	40	15			
	10400	BERN	23		1240.3	1253.2	40	17			
	9400	HUAN		S	1240.7	1241.3	2	12.1	7.9		0
	33	UPIC	45	C	1245.7	1246.9	3.2				
	1470	BERL	1	S	1246.5	1247	2.5	4.6			
	3000	BERL	8	S	1246.5	1246.9	.6	12			
	29	UPIC	45	C	1246.7	1247.3	1.6				
	9400	HUAN		S	1247.7	1256.8	21.9	8.7	5.6		0
	9400	HUAN		S	1251.1	1251.8	4.3	13.9	7.1		0
	2800	OTTA	21	GRF	1320	1450	200	9.2			
	2650	DWIN	2	S/F	1346	1046	1	40	10		
	9400	HUAN		S	1402.3	1412.5	19.9	6.9	2.2		0
	7000	SAOP	4	S/F	1435	1438.2	14.6	37.5			17R
	9400	HUAN		S	1436.3	1438.1	4.1	27.7	15.8		0
	8400	BERN	45		1436.4	1438.2	53	29			
	10400	BERN	45	C	1436.4	1438.2	53	10	27		
	8400	BERN	45	C	1436.4	1438.2	53	12	29		
	10400	BERN	45		1436.4	1438.2	53	27			
	8800	SGMR	3	S	1437.2	1438.5	3	42.1	12.6		5,SWF
	15400	SGMR	3	S	1437.2	1438.2	4.8	21.8	6.5		5,SWF
	4995	SGMR	3	S	1437.5	1437.8	3.5	17.8	5.3		5,SWF
	10715	DWIN	4	S/F	1437	1438	8	20	10		
	1420	BOUL	45	C	1437 E	1439	1.5D	25	8		
	2800	OTTA	45	C	1438.1	1439.1	1.5	40	13		
	1415	SGMR	3	S	1438.4	1439.1	1.6	41.5	12.5		5,SWF
	2695	BOUL	45	C	1438.5E	1440	2 D	36	12		
	2695	SGMR	3	S	1438.5	1439.8	1.6	140	42		5,SWF
	2650	DWIN	45	C	1438	1439	2	65	10		
	9400	HUAN		PBI	1440.4	1440.4	82.3	12.1	5		0
	9400	HUAN		S	1445.3	1445.8	1.1	6.9	3.8		R
	2800	OTTA	240	R	1717	1725	8	3.2	2		
	2800	OTTA	240	R	1822	1825	3	2.4	1.2		
	2800	OTTA	40	F	1839.5	1848	11	7.8			
	2800	OTTA	24	R	1839	1851	12	3.2			
	2800	OTTA	27A	RF	1839		180	3.2	2.8		
	2800	OTTA	24P	R	1851		129	3.2			
	2800	OTTA	3	S	1905.5	1905.6	1	11.6	2.9		
	9400	HUAN		S	2017.4	2024.1	39.8	10.4	5		0
	2800	OTTA	40	F	2022.6	2022.7	1	11			
	1415	SGMR	3	S	2031.4	2031.8	1.1	18.8	5.6		CONT
	2800	OTTA	40	F	2031.8	2031.8	1.5	46			
	1420	BOUL	3	S	2031 E	2131.5	1.5D	17	6		
	2695	SGMR	3	S	2032.1	2032.6	2.1	37.4	11.2		CONT
	2695	BOUL	45	C	2032 E	2032.5	1.5D	42	14		
	2800	OTTA	26	FAL	2100	2140	40	-3.2	-1.6		
	9400	HUAN		S	2123.9	2129.5	15.1	19	8.9		R
	2800	OTTA	20	GRF	2126	2130	13	1.8	1		
	2695	PENT	20	GRF	2223	2235	35	3			
18	5730	IRKU	1	S	0209.6	0210.3	2	16	4		R
	5730	IRKU	45	C	0335	0336.7	10	9	5		R
	5730	IRKU			0335	0337.9		14			R
	5730	IRKU	2	S	0355	0356.2	2	45	14		R

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
18	5730	IRKU	29 PBI	0357		25	14	5		R
	606	MANI	4 S/F	0448.4	0449.7	3.7	14.1	4.7		
	1415	MANI	4 S/F	0448.4	0450.7	3	19.3	6.4		
	2695	MANI	4 S/F	0448.4	0449	5	52.8	17.6		I
	100	GORK	44 NS	0527 E		428 E		200		
	200	GORK	44 NS	0527 E		423 E		40		
	127	TORN	44 NS	0640 E	0942	500 D	560	270		V1
	221	ABST	44 NS	0700	0853	120	14			
	202	IZMI	44 NS	0700		300	100			
	260	ONDR	44 NS	0740 E		438 D	142	30		
	536	ONDR	43 NS	0750	1214.2	370	91	8		
	245	SGMR	44 NS	1141 E	1548.2	633 D	570			CONT
	606	SGMR	44 NS	1141 E	2027.1	633 D	213			CONT
	410	SGMR	44 NS	1141 E	1214.2	633 D	216			CONT
	1415	SGMR	44 NS	1141 E	1815.9	633 D	190			CONT
	100	HIRA	44 NS	2130 E	2230	650 D	650	430		SL
	200	HIRA	44 NS	2130 E	0245	650 D	400	170		ML
	6100	KISV	32 ABS	0620	0633	17	4			
	2950	GORK	21 GRF	0635.1	0638.1	65	13			
	9100	GORK	21 GRF	0636	0648.9	59	90			
	5730	IRKU	45 C	0636	0642.5	16	196			R
	5730	IRKU		0636	0645.8		344			R
	5730	IRKU		0636	0645.2		336			R
	3100	CRIM	3 S	0636	0646	40	20	7		
	2695	MANI	4 S/F	0637.7	0645.6	12.3	173.6	115.8		
	6100	KISV	40 F	0637	0642.3	7	111			
	8800	MANI	47 GB	0638.2	0645.8	12.3	670	266		I,SCNA
	2695	ATHN	14 C	0638.2	0645.1	39.3	234	70.2		
	4995	ATHN	15 GB	0638.4	0645.2	39.1	581.6	150.5		
	8800	ATHN	15 GB	0638.5	0645.8	39	716.5	214.9		
	2950	GORK	48 C	0638.5	0640	11.2	150			
	2950	GORK		0638.5	0648.1		237			
	9100	GORK		0638.7	0645.7		450			
	9100	GORK	46 C	0638.7	0640.2	10.1	296			
	650	GORK	21 GRF	0639.2		17.8				
	1415	ATHN	2 GRF	0639.2	0644.1	11.2	126.4	75.9		
	1415	MANI	4 S/F	0639.3	0646	10.5	56	37.3		
	606	MANI	41 F	0639.3	0640.9	9	409.8	32		
	950	GORK		0639.4	0645.9		43			
	950	GORK	45 C	0639.4	0643.4	9	21			
	15000	KISV	40 F	0639	0643	5	132			
	650	GORK	4 SF	0640	0640.7	1.5	80	20		
	113	POTS	49 GB	0640	0648.8	19	5500	1400		
	35000	NAGO	5 S	0641	0647	23	95			
	127	TORN	49 GB	0643.2	0647.4	13.5	2700 U	370		SUNRISE
	6100	KISV	29 PBI	0643.5	0647.2	33	95			
	6100	KISV		0643.5	0645.3		220			
	6100	KISV	45 C	0643.5	0645.7	4	235			
	15000	KISV	29 PBI	0643.5	0652	33	106			
	15000	KISV		0643.5	0645.3		290			
	15000	KISV	45 C	0643.5	0645.7	12	387			
	100	HIRA	48 C	0643	0649	14	30000	9999		0
	100	GORK		0644	0649.2U		17000 D			
	100	GORK	46 C	0644	0645	10	1700			
	650	GORK	3 S	0644.1	0645.8	3.8	16	8		
	200	GORK		0644.2	0645 U		980 D			
	200	GORK	46 C	0644.2	0644.4U	4.4	980 D			
	5730	IRKU	1 S	0656.3	0657.1	4	14	5		R
	6100	KISV	4 S/F	0656.5	0657	2	6			
	9100	GORK	1 S	0656.7	0657	1.4	10.5	5		
	6100	KISV	1 S	0706.5	0706.7	1	3			
	650	GORK	20 GRF	0707.5	0718	18.3	6	3		
	10400	BERN	2 S/F	0804.9	0810.3	8	7	19		
	8400	BERN	2 S/F	0804.9	0810.3	8	7	19		
	10400	BERN	2	0804.9	0810.4	8	19			
	8400	BERN	2	0804.9	0810.4	8	19			5R
	9100	GORK	20 GRF	0806.4	0810.4	16.9	10.5	3		
	9100	ARCE	22 GRF	0807.1	0810.7	11.4				
	9500	BERL	29 PBI	0810	0810.5	3	15			
	15000	KISV	4 S/F	0810	0811	2	33			
	6100	KISV	4 S/F	0810	0810.5	3	2			
	10715	DWIN	1 S	0810	0811	3	10	5		
	202	IZMI	4 S/F	0829.8	0838	1	400	200		
	234	POTS	41 F	0834.8	0835	.9	420	4		
	200	GORK		0834.8	0839.7		900			
	200	GORK	46 C	0834.8	0836.4	9.8	900 D			
	6100	KISV	32 ABS	0848	0857	12	3			
	100	GORK		0852	0853.4		2300 D			
	100	GORK	45 C	0852	0853.2	2.5	2300 D			
	9100	GORK	1 S	0859.2	0900	2.2	5	2		
	6100	KISV	32 ABS	0900.2	0921	32	3			
	9100	GORK	20 GRF	0931.5	0936	23	8.5	4.5		
	100	GORK	4 SF	0945	0945.4	1.5	2500			
	6100	KISV	8 S	1009	1009.3	1	3			
	100	GORK	8 S	1015.9	1016	.6	2500			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
18	234	POTS	8 S	1055.8	1056.4	.8	350	120		
	6100	KISV	20 GRF	1110	1134	42	7			
	6100	KISV		1110	1128		7			
	6100	KISV		1110	1116		4			
	8400	BERN	21	1114	1241.5	202	19			
	10400	BERN	21	1114	1306.1	202	20			
	10400	BERN	21	1114	1241.5	202	27			
	10400	BERN	21	1114	1216.4	202	28			
	10400	BERN	21 GRF	1114	1216.4	202	10	28		
	8400	BERN	21 GRF	1114	1216.4	202	15	40		
	10400	BERN	21 GRF	1114	1422.2	202	6	18		
	8400	BERN	21 GRF	1114	1424	202	6	16		
	10400	BERN	21 GRF	1114	1306.1	202	7	20		
	8400	BERN	23 GRF	1114	1306.1	202	9	25		
	10400	BERN	21 GRF	1114	1241.4	202	9	27		
	8400	BERN	21 GRF	1114	1241.4	202	7	19		
	10400	BERN	21	1114	1422.3	202	18			
	8400	BERN	21	1114	1424	202	16			
	8400	BERN	23	1114	1306.1	202	25			24R
	8400	BERN	21	1114	1216.4	202	40			34R
	9500	BERL	20 GRF	1115	1216.5	155	38			
	200	GORK	24 R	1121	1155.6	75 E	600			
	9100	GORK	20 GRF	1122.3	1134	44 E	11			
	234	POTS	42 SER	1123.6	1133	9.9	560	1		
	930	BORD	42 SER	1132	1138.2	7	43	2		
	650	GORK	21 GRF	1135.6		58				
	4995	ATHN	2 GRF	1148.3	1215.5	124.3	36.7	22		
	8800	ATHN	2 GRF	1148.5	1215.5	125.3	47.3	28.4		
	950	GORK		1149.2	1232.2		270			
	950	GORK	41	1149.2	1221.1		80			
	950	GORK		1149.2	1214.3		100			
	950	GORK		1149.2	1200.8		48			
	950	GORK	41 F	1149.2	1155.1		14			
	950	GORK	23 GRF	1149.2	1206	44.5	13.5			
	2695	ATHN	4 S/F	1149.4	1215.3	123.5	90.2	27.1		
	1470	BERL	46 C	1150	1215	48	129			
	1415	ATHN	14 C	1154.1	1214.7	42.9	149.4	44.8		
	650	GORK	40 F	1154.7	1155	4	12			
	930	BORD	46 C	1154	1232.2	40	269	25		
	808	ONDR	41 F	1155	1232	39	232	32		
	650	GORK		1159.6	1200.8		52			
	650	GORK	46 C	1159.6	1200.1	2.1	22			
	650	GORK		1159.6	1201.5		47			
	3000	BERL	45 C	1208	1215.2	28	53			
	2695	SGMR	45 C	1209	1215.7	28.8	130	39		CONT
	2695	SGMR	45 C	1209	1231.8		70.9			CONT
	4995	SGMR	4 S	1210.6	1215.7	26.9	50.7	15.3		CONT
	1415	SGMR	45 C	1211.5	1214.7	24.6	175	52.5		CONT
	1415	SGMR	45 C	1211.5	1231.8		159			CONT
	8800	SGMR	2 S	1212.4	1216.2	25.6	30.4	12.2		CONT
	2650	DWIN	45 C	1212	1215	21	80	30		
	606	SGMR	45 C	1213	1232.1		136			CONT
	650	GORK	48 C	1213	1214.7	4.5	50			
	650	GORK		1213	1217.6		37			
	650	GORK		1213	1215.4		22			
	606	SGMR	45 C	1213	1214.6	20.5	104	40.8		CONT
	10715	DWIN	2 S/F	1213	1215	18	20	10		
	9400	HUAN	S	1217.1E	1217.3U	6.2	24.3	10.1		R
	9400	HUAN	S	1217.1E	1322.6	135	41	20.4		R
	650	GORK		1218	1229.2		47			
	650	GORK	40 F	1218	1222.5	12	27			
	650	GORK	4 SF	1230.2	1232	3.2	109	50		
	33	UPIC	45 C	1230.6	1231	2.7				
	29	UPIC	45 C	1232	1233.3U	1.6				
	15400	SGMR	3 S	1239.2	1241.4	4.5	52.8	15.8		CONT
	9400	HUAN	S	1240.8	1241.5	1.7	25.8	12.9		R
	10715	DWIN	1 S	1241	1242	4	25	10		
	9400	HUAN	S	1304.3	1306	3.5	16.7	11.5		R
	7000	SAOP	45 C	1304.4	1306.2	36	32.5			46R
	9400	HUAN	S	1309.3	1311	3.5	13.7	9.6		R
	2800	OTTA	20 GRF	1310	1325	40	7	3.5		
	234	POTS	42 SER	1353.1	1356.6	4.3	350	1		
	9400	HUAN	S	1357.3	1357.8	1.3	7.6	4.6		R
	7000	SAOP	1 S	1402.3	1404.9		6.5			91R
	7000	SAOP	3 S	1409	1409.6	1.2	11			67R
	7000	SAOP	1 S	1413	1413.8		8.5			47R
	2800	OTTA	240 R	1435	1445	10	4.6	2.3		
	9400	HUAN	S	1459	1459.4	1	4.6	3		8
	8400	BERN	1	1504	1505	2	9			10R
	10400	BERN	1	1504	1505	2	6			
	10400	BERN	1 S	1504	1505	2	2	6		
	8400	BERN	1 S	1504	1505	2	3	9		
	7000	SAOP	1 S	1504.4	1505.2	.8	8.5			71R
	2800	OTTA	1 S	1504.5	1505	1.5	2.4	1.2		
	9400	HUAN	S	1505.4	1506	1.3	6.1	5.3		0

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
18	7000	SAOP	4 S/F	1521	1540	28.4	42.5			12R
	9400	HUAN		1537.2	1539.8		47.1			
	9400	HUAN	C	1537.2	1539.1	3.6	48.6	29.6		R
	10400	BERN	45	1537.6	1539.2	40 D	33			
	10403	BERN	45 C	1537.6	1539.1	40 D	12	33		
	8400	BERN	45 C	1537.6	1539.1	40 D	15	39		
	8403	BERN	45	1537.6	1539.2	40 D	39			10R
	10715	DWIN	2 S/F	1538	1539	12 U	30	10		
	2800	OTTA	2 S/F	1538	1538.9	1.2	6	3.1		
	2800	OTTA	8 S	1539.5	1539.7	.3	4.6	2.3		
	9400	HUAN	PBI	1540.8	1540.8	37.2	25.8	16.1		R
	2800	OTTA	28 PRE	1616	1634.7	18.7	15.4	7		
	7000	SAOP	46 C	1618	1640.8		2368			1R
	4995	BOUL	28 PRE	1620	1637	20	105	35		
	2695	BOUL	28 PRE	1621.5E	1637	15 D	29	10		
	1415	SGMR	47 GB	1624	1637.4	70.4	1410	658		4,SWF
	1415	SGMR	47 GB	1624	1703.8		274			4,SWF
	1415	SGMR	47 GB	1624	1641.6		4710			4,SWF
	1415	SGMR	47 GB	1624	1710.1		154			4,SWF
	9400	HUAN	C	1624.5	1641.6	112	2799.8	478.7		R
	9400	HUAN		1624.5	1825.5	3.3	30.4	11.1		RLR
	8800	SGMR	47 GB	1628	1703.9		278			4,SWF
	8800	SGMR	47 GB	1628	1641.5		2350			4,SWF
	4995	SGMR	47 GB	1628	1636.4	74.6	351	158		4,SWF
	8800	SGMR	47 GB	1628	1709.9		324			4,SWF
	8803	SGMR	47 GB	1628	1636.5	72	705	333		4,SWF
	4995	SGMR	47 GB	1628	1709.8		685			4,SWF
	4995	SGMR	47 GB	1628	1704.3		676			4,SWF
	4995	SGMR	47 GB	1628	1641.6		1170			4,SWF
	15400	SGMR	47 GB	1632	1724.1		393			4,SWF
	15400	SGMR	47 GB	1632	1641.5		3440			4,SWF
	15400	SGMR	47 GB	1632	1636.6	62.8	1030	1070		4,SWF
	35000	SGMR	47 GB	1632	1641.7		794			4,SWF
	35000	SGMR	47 GB	1632	1636.7	48	238	243		4,SWF
	15400	SGMR	47 GB	1632	1710.4		312			4,SWF
	930	BORD	45 C	1632	1641.5	46 D	3472 U			
	636	SGMR	47 GB	1634.4	1714.9		3610			4,SWF
	606	SGMR	47 GB	1634.4	1703.3		765			4,SWF
	606	SGMR	47 GB	1634.4	1641.7		5320			4,SWF
	606	SGMR	47 GB	1634.4	1634.7	48.6	1600	437		4,SWF
	2800	OTTA	47 GB	1634.7	1641	12.3	1945	313		
	410	SGMR	49 GB	1634.7	1636.4	43.1	915	305		4,SWF
	410	SGMR	49 GB	1634.7	1704.8		1365			4,SWF
	410	SGMR	49 GB	1634.7	1641.8		1300			4,SWF
	2695	SGMR	47 GB	1634.9	1641.6		3000			4,SWF
	2695	SGMR	47 GB	1634.9	1710.4		185			4,SWF
	2695	SGMR	47 GB	1634.9	1637.3	66.7	900	688		4,SWF
	2695	SGMR	47 GB	1634.9	1704.4		363			4,SWF
	1420	BOUL	47 GB	1635 E	1641	8.50	2526	842		
	10715	DWIN	45 C	1635 D			400 D			
	2650	DWIN	45 C	1635 D			200 D			
	1420	BOUL	47 GB	1635 E	1637.5	3.50	517	172		
	245	SGMR	49 GB	1636	1704.8		780			4,SWF
	245	SGMR	49 GB	1636	1643.8		1159			4,SWF
	245	SGMR	49 GB	1636	1641.8		1065			4,SWF
	245	SGMR	49 GB	1636	1636.8	42	876	623		4,SWF
	2695	BOUL	47 GB	1637	1642	7	2979	993		
	4995	BOUL	47 GB	1640	1642	3.5	1144	381		
	1420	BOUL	29 PBI	1643.5	1643.5	65 U	94	31		
	4995	BOUL	29 PBI	1643.5	1643.5	80	186	62		
	2695	BOUL	29 PBI	1644	1644	67	163	54		
	2800	OTTA	30 PBI	1647	1647	150	69	22.2		
	1420	BOUL	45 C	1700	1703.5	5.5	175	58		
	2695	PENT	45 C	1701.5	1704.2	14.5	236	55		
	4995	BOUL	4 SF	1702.5E	1704	3.50	186	62		
	2695	BOUL	45 C	1702.5	1705	4	342	114		
	4995	BOUL	4 SF	1709.5E	1710.5	3 D	214	71		
	1420	BOUL	45 C	1709	1710.5	6.5	124	41		
	2695	BOUL	3 S	1710.5	1711	3	182	61		
	1420	BOUL	45 C	1815.5E	1816	1.50	234	78		
	9400	HUAN	S	1824.5	1826.1		18.2			
	2800	OTTA	1 S	1838	1840	4	2.4	1.2		
	1420	BOUL	47 GB	1851.5E	1855.5	21 D	3597	1199		
	2800	OTTA	40 F	1852	1857.6	7	6.7			
	410	SGMR	6 S	1854.6	1857.5	11.4	234	70		CONT
	410	SGMR	6 S	1854.6	1900.3		164			CONT
	245	SGMR	6 S	1855	1856.2	13	135	40		CONT
	1415	SGMR	47 S	1855	1857.4		3180			CONT
	1415	SGMR	47 GB	1855	1855.4	21.2	4640	1390		CONT
	606	SGMR	3 S	1857.6	1918.3	13.5	76	23		CONT
	606	SGMR	3 S	1857.6	1857.9		59			CONT
	1420	BOUL	47 GB	1857	1857.5	1.5	1912	637		
	2800	OTTA	1 S	1927	1929	4	3.2	1.6		
	9400	HUAN	S	1950.2	2016.3	63.1	68.4	35.1		R
	2800	OTTA	46F C	1950	1955.5	14	39	20.6		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	4995	BOUL	45	C	1951.5	1959	19	47	16		
	4995	SGMR	45	C	1952	1959.3		46			CONT,SWF
	4995	SGMR	45	C	1952	1954.7	12.8	54	16		CONT,SWF
	2695	SGMR	3	S	1952.3	1954.8	11.6	38	7		CONT,SWF
	9400	HUAN		S	1952.7	1954.6	5	132.2	51.6		R
	1415	SGMR	3	S	1953	1957	7.6	17	3		CONT,SWF
	8800	SGMR	3	S	1953.3	1954.7	8.2	103	31		CONT,SWF
	15400	SGMR	3	S	1954.3	1954.5	1.9	124	25		CONT,SWF
	2695	BOUL	21	GRF	1954 E	1957	13 D	36	12		
	9400	HUAN		S	1959	2000.5	4	15.2	10.2		R
	2800	OTTA	30	PBI	2004	2004	55	12	8		
	2695	PENT	2	S/F	2007	2008.2	9	7	3		
	9400	HUAN		S	2026.4	2027.1	1.4	51.7	19.3		R
	9400	HUAN		C	2113.7	2122	26.7	316.2	53.7		L
	245	SGMR	48	GB	2117	2119.5	3.3	719	144		CONT
	410	SGMR	7	S	2117	2119.3	3	354	70.8		CONT
	8800	SGMR	3	S	2121.3	2121.9	5.2	182	36		CONT
	15400	SGMR	47	GB	2121.4	2122	3.6	725	145		CONT
	35000	SGMR	3	S	2121.4	2122	2.6	118	23		CONT
	2695	PENT	21	GRF	2125		100	10			
	35000	NAGO	20	GRF	2135	2151	40	39			
	2695	PENT	1	S	2136	2137	7	3.2	1.7		
	4995	BOUL	45	C	2203.5	2206	8	97	32		
	9400	HUAN		C	2204.4	2206.8	41.6	273.6	66.5		R
	500	HIRA	46	C	2204	2210.5	9	200	60		SL
	2695	PENT	46F	C	2205	2207	15	55	23		
	1420	BOUL	45	C	2206.5E	2211	7.5D	84	26		
	2695	BOUL	45	C	2207 E	2211	7.5D	58	19		
	4995	BOUL	29	PBI	2211.5	2211.5	17.5	31	10		
	35000	NAGO	21	GRF	2241	2249	37	18			
	1420	BOUL	42	SER	2308.5E	2311.5	5 D	23	8		
	1420	BOUL	3	S	2330.5E	2331	1.5D	14	5		
19	35000	NAGO	20	GRF	0006	0620	30	11			
	100	GORK	44	NS	0528 E		458 E		15		
	200	GORK	44	NS	0530		510 E		15		
	221	ABST	44	NS	0600	0837.5	180	14			
	127	TORN	44	NS	0630 E	0935.3	510 D	370	80		V1
	202	IZMI	44	NS	0700		80	50			
	260	ONDR	44	NS	0910 E		320 D	34			
	410	SGMR	44	NS	1139 E	2150.6	637 D	36.7			
	245	SGMR	44	NS	1139 E	1724	637 D	78.3			
	100	HIRA	44	NS	2120 E	2320	670 D	500	130		SL
	200	HIRA	44	NS	2345 E	0310	525 D	45	25		ML
	650	GORK	4	SF	0602.4	0602.7	.8	25	5		
	950	GORK	2	SF	0614.1	0614.7	1	9			
	6100	KISV	8	S	0614.5	0614.7	1	2			
	200	GORK	24	R	0615	0620.5	13.7	127			
	650	GORK	4	SF	0706.6	0706.9	.5	73	15		
	200	GORK	4	SF	0706.9	0708.4	2	200			
	15000	KISV	8	S	0730	0730.5	1	5			
	930	BORD	8	S	0734	0734	.1	17	1		
	10400	BERN	3	S	0754	0758.3	10	6	17		
	8400	BERN	3	S	0754	0758.3	10	6	17		
	10400	BERN	3		0754.1	0758.4	10	17			
	8400	BERN	3		0754.1	0758.4	10	17			
	6100	KISV	20	GRF	0757	0759	8	1			
	15000	KISV	4	S/F	0757	0758	3	8			
	15000	KISV			0807	0809.3		11			
	15000	KISV	45	C	0807	0815.5	16	18			
	6100	KISV			0807	0814		5			
	6100	KISV	20	GRF	0807	0815.5	28	7			
	6100	KISV			0807	0831		3			
	8400	BERN	21		0811.5	0820.4	18	28			
	10400	BERN	21		0811.5	0820.4	18	22			
	10400	BERN	21	GRF	0811.5	0820.3	18	7	22		
	8400	BERN	21	GRF	0811.5	0820.3	18	10	28		
	9100	ARCE	22	GRF	0812.1	0820.7	38				
	9500	BERL	20	GRF	0812	0820.4	24	22			
	1470	BERL	20	GRF	0815	0830.8	34	7.6			
	650	GORK	3	S	0817.4	0818.8	3.6	3			
	3000	BERL	20	GRF	0819	0830.5	41	8.5			
	9100	GORK	21	GRF	0859.6	1836.9	152.3	48	15		
	200	GORK			0921.4	0936		230			
	200	GORK			0921.4	0930		100			
	200	GORK	41	F	0921.4	0924.6	15	190			
	9100	ARCE	23	GRF	0923.7	1019.8	99				
	100	GORK	41	F	0928.5	0929.2	15	2200			
	100	GORK			0928.5	0942.7		2200			
	100	GORK			0928.5	0933.4		1700			
	3000	BERL	20	GRF	0929	0944.7	27	8.5			
	9500	BERL	20	GRF	0931	0941	29	15			
	9100	ARCE	1	S	0938.6	0938.9	1				
	2950	GORK	21	GRF	0941		67				
	536	ONDR	2	S/F	0946.2	0946.2	.5	20			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
19	3000	BERL	21 GRF	1001	1036	74	8.5			
	9500	BERL	21 GRF	1005	1019	85	25			
	10400	BERN	45 C	1007.2	1032.8	83	42	124		
	8400	BERN	45 C	1007.2	1032.8	83	35	95		
	10400	BERN	45	1007.3	1032.8	83	124			
	8400	BERN	45	1007.3	1032.8	83	95			4R
	1470	BERL	20 GRF	1015	1029	80	6.9			
	2950	GORK	3 S	1030.1	1030.3	.7	17	8		
	9500	BERL	29 PBI	1031.5	1032.6	18	139			
	9100	ARCE	3 S	1031.9	1033.1	2				
	3000	BERL	3 S	1032	1032.7	1.4	14			
	9100	GORK	4 SF	1032.5	1033.3	37	118	59		
	15000	KISV		1032	1035		83			
	15000	KISV	45 C	1032	1032.5	18	222			
	9100	ARCE	29 PBI	1033.9		17				
	10715	DWIN	4 S/F	1037	1038	33	110	20		
	9100	ARCE	3 S	1108.7	1109.2	4.4				
	10715	DWIN	3 S	1108	1109	7	20	5		
	9100	GORK	1 S	1109.3	1109.5	.9	13	6.5		
	6100	KISV	29 PBI	1131.3	1033.5	14	23			
	6100	KISV	8 S	1131.5	1033	2	39			
	9400	HUAN	S	1138.6	1139.2	1.6	9.5	7		0
	536	ONDR	8 S	1150	1150	.2	24			
	9400	HUAN	S	1207.2	1216.7	30.5	7.9	1.2		R
	7000	SAOP	3 S	1220	1220.8	.6	34			36R
	10400	BERN	3	1220.3	1220.8	9	58			
	10400	BERN	3 S	1220.3	1220.8	9	20	58		
	8400	BERN	3 S	1220.3	1220.8	9	27	73		
	8400	BERN	3	1220.3	1220.8	9	73			16R
	9500	BERL	41 F	1220.4	1220.7	6.1	47			
	9400	HUAN	8 S	1220.5	1220.8	.8	68.4	26		R
	3000	BERL	3 S	1220.7	1220.8	1.8	8.5			
	9100	ARCE	8 S	1220.8	1220.9	.6				
	9100	GORK		1220.9	1225.6		22			
	9100	GORK	46 C	1220.9	1221.3	6.2	93			
	10715	DWIN	2 S/F	1220	1221	5	50	5		
	2950	GORK	1 S	1221.3	1221.4	.9	14	7		
	9100	ARCE	29 PBI	1221.4		8.4				
	950	GORK	2 SF	1224.4	1224.7	.6	5.4			
	7000	SAOP	46 C	1224.4	1225	1.4	23.5			30R
	9400	HUAN	S	1224.5	1224.9	2.5	14.3	6.8		R
	650	GORK	4 SF	1234.1	1239.6	5.2	99			
	200	GORK	46 C	1234.7	1237.3	8.6	180 D			
	200	GORK		1234.7	1241.6		190			
	200	GORK		1234.7	1239.3		185 D			
	245	SGMR	7 S	1235.8	1236.4	5.7	416	83.2		3G
	260	ONDR	48 C	1235	1235.8	5	185	24		
	3000	BERL	1 S	1236	1236.4	1.5	6.3			
	1470	BERL	1 S	1236	1237	2	4.3			
	228	HARS	45 C	1236	1236.5	1.2	575	190		
	410	SGMR	48 GB	1236	1238.8	4.4	1340	268		3G
	234	POTS	41 F	1236.2	1237.1	2.6	500	10		
	2950	GORK	1 S	1236.7	1237	1.6	15	7.5		
	536	ONDR	46 C	1236	1238.5	4	65	3		
	606	SGMR	3 S	1237.1	1238.9	3.9	303	60.6		3G
	930	BORD	8 S	1237	1237	.2	17	2		
	9400	HUAN	S	1253.3	1325	56.2	6.4	2.9		R
	1470	BERL	40 F	1257	1308	4.5	12			
	9100	ARCE	21 GRF	1514.2	1532.6	54				
	10400	BERN	46	1515	1525.7	70	236			
	8400	BERN	46	1515	1525.7	70	227			4R
	10400	BERN	46 C	1515	1525.7	70	80	236		
	8400	BERN	46 C	1515	1525.7	70	86	227		
	10715	DWIN	45 C	1515	1526	30 U	200	40		
	2800	OTTA	23 GRF	1515	1522	90	19	7.6		
	7000	SAOP	46 C	1517	1525.8	25	265			11R
	2650	DWIN	45 C	1518	1526	30 U	60	20		
	2695	ATHN	2 GRF	1520.3	1526	10.5	66.5	39.9		
	8800	ATHN	4 S/F	1520.3	1525.8	14.3	254.4	76.3		
	4995	ATHN	3 S	1520.5	1526.2	9.1	92.8	27.8		
	4995	BOUL	28 PRE	1520	1522	4.5	24	8		
	4995	SGMR	3 S	1521	1526.4	15.5	123	49		3G,CONT,SWF
	8800	SGMR	3 S	1521	1526.4	15	307	123		3G,CONT,SWF
	2695	SGMR	3 S	1521	1527	15.5	57.4	23		3G,CONT,SWF
	606	SGMR	3 S	1521.6	1528	15.4	192	76.8		3G,CONT,SWF
	1415	SGMR	3 S	1521.6	1525.8	14.9	86.5	34.6		3G,CONT,SWF
	1415	ATHN	2 GRF	1521.8	1526.2	6.9	87.2	52.3		
	930	BORD	45 C	1521	1525.8	10	81	20		
	1420	BOUL	4 SF	1521 E	1521.5	1 D	27	9		
	15400	SGMR	3 S	1522	1526.6	14	253	101		3G,CONT,SWF
	35000	SGMR	3 S	1522	1526.6	14	75	38		3G,CONT,SWF
	2695	BOUL	28 PRE	1522 E	1525 U	4 D	21	7		
	410	SGMR	7 C	1523	1533.3	16	63.4	98.4		3G,CONT,SWF
	410	SGMR	7 C	1523	1535.1		226			3G,CONT,SWF
	245	SGMR	3 S	1523.1	1525.4	15.9	344	138		3G,CONT,SWF

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	4995	BOUL	45	C	1524.5	1525.5	4.5	83	28		
	1420	BCUL	45	C	1524.5E	1525.5	2.5D	60	20		
	9100	ARCE	4	S/F	1524.7	1525.9	5.2				
	2800	OTTA	4	S/F	1525	1525.8	6	41.8	15.4		
	2695	BCUL	3	S	1526	1527.5	2 D	65	22		
	1420	BOUL	29	PBI	1527	1527	10.5U	27	9		
	2695	BOUL	29	PBI	1528	1528	10 U	21	7		
	4995	BOUL	29	PBI	1529	1531.5	21	32	11		
	2800	OTTA	21	GRF	1557	1605	23	4.2	2.1		
	2800	OTTA	1	S	1602	1603	2.5	6.2	2.1		
	2800	OTTA	27A	RF	1755		280	11	9.1		
	2800	OTTA	24	R	1755	1806.5	11.5	11	5		
	4995	SGMR	3	S	1757.6	1808.5	42.4	219	87.6		SWF
	2695	SGMR	3	S	1758	1809.1	42	130	52		SWF
	7000	SAOP	46	C	1758	1808.8	57.6	315			11R
	2800	OTTA	1	S	1758	1801.5	5	7.6	4		
	8800	SGMR	3	S	1759	1808.5	41	286	114		SWF
	4995	BOUL	45	C	1805	1808	10.5	117	39		
	15400	SGMR	3	S	1806	1809.3	34	157	62.8		SWF
	2800	OTTA	24P	R	1806.5		183.5	11			
	1415	SGMR	3	S	1807.8	1808.8	32.2	11.4	4.6		SWF
	2800	OTTA	4	S/F	1807	1809	4	112	47.2		
	2695	BCUL	45	C	1808.5E	1810	3 D	106	35		
	4995	BOUL	29	PBI	1810.5	1813.5	67.5	58	19		
	2695	BOUL	29	PBI	1811.5	1815	43 U	43	14		
	2800	OTTA	29	PBI	1811	1811	80	35.6	19		
	9400	HUAN		S	1852.2E	1855 U	47.7	38.2	17.5		R
	9400	HUAN		S	1954.8	2020.2	100.2	14.3	6.6		O
	2695	PENT	1	S	2003	2006	7	3	1.5		
	2800	OTTA	26	FAL	2110	2235	85	-11	-5		
	2695	PENT	1	S	2148	2150	10	2.6	1.3		
	2695	PENT	40	F	2221	2225.5	8	6.6			
	9400	HUAN		S	2225	2225.3	1.5	31.8	14.1		R
	2695	PENT	40	F	2246	2246.5	11	7.8			
20	5730	IRKU	45	C	0238	0239.7	7	23	7		R
	5730	IRKU			0238	0240.6		18			R
	5730	IRKU	21	GRF	0451	0455	8	21	5		R
	100	GORK	44	NS	0530 E		423		5		
	200	GORK	44	NS	0536 E		534		5		
	127	TORN	44	NS	0640 E	1203.4	513 D	160	26		V2
	202	IZMI	44	NS	0700		300	90			
	260	ONDR	44	NS	0737 E		423 D	104	4		
	536	ONDR	43	NS	0752	1145.5	343	195			
	245	SGMR	44	NS	1138 E	1633.7	639 D	259			S,CONT
	410	SGMR	44	NS	1138 E	1320.9	639 D	67.4			S,CONT
	200	HIRA	44	NS	2120 E	0030	670 D	140	70		ML
	100	HIRA	44	NS	2120 E	2350	670 D	750	250		SL
	6100	KISV	45	C	0548	0555	22	13			
	6100	KISV			0548	0604		3			
	15000	KISV	4	S/F	0554	0555	2	14			
	9100	GORK	1	S	0555	0555.7	22	17	8		
	6100	KISV	24	R	0557	0557	62	6			
	221	ABST	45	C	0638	0638.5	2	61	28		
	200	GORK			0641.6	0642.6		60 D			
	200	GORK	46	C	0641.6	0642	2.2	60 D			
	113	POTS	4	S/F	0649.6	0649.9	.7	1400	250		
	6100	KISV	27	RF	0655	0745	75	5			
	200	GORK	8	S	0709.3	0709.5	.6	70 D			
	113	POTS	8	S	0730.2	0730.4	.8	4600	1500		
	100	GORK	8	S	0730.4	0730.6	.7	300 D			
	200	GORK	8	S	0730.8	0731.3	1.1	75			
	9100	GORK	20	GRF	0735.2	0745	33.9	11	3.5		
	650	GORK	1	S	0747.3	0747.5	.5	14	7		
	650	GORK	20	GRF	0747.3		13.70				
	650	GORK	1	S	0752.7	0753	.4	7	3.5		
	1470	BERL	40	F	0758	0800.1	3.5	109			
	650	GORK	4	SF	0758.6	0800.7	2.5	35			
	950	GORK			0759.5	0801.3		3			
	950	GORK	46	C	0759.5	0800.3	1.30	2.4			
	113	POTS	4	S/F	0759.8	0800	1.2	8800	350		
	29	UPIC	8	S	0800.1	0800.5	.5				
	200	GORK	8	S	0800.4	0800.8	.8	80 D			
	100	GORK	45	C	0800.6	0800.7	.6	280			
	100	GORK			0800.6	0800.8		350 D			
	33	UPIC	8	S	0800	0800.2	.6				
	15000	KISV	1	S	0835	0836	2	7			
	9100	GORK	1	S	0836.7	0836.9	1.7	5.5	2.5		
	650	GORK	1	S	0837.1	0837.5	.6	9	4		
	650	GORK	21	GRF	0837.1	0857	45.7	3.5	1.5		
	650	GORK	1	S	0844	0844.1	.3	9	4		
	10400	BERN	1	S	0849.5	0850.1	4	3	9		
	8400	BERN	1	S	0849.5	0850.1	4	4	11		
	8400	BERN	1		0849.5	0850.1	4	11			OPR
	10400	BERN	1		0849.5	0850.1	4	9			OPR

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
20	1470	BERL	4 S/F	0850.4	0851	3.6	16			
	2695	MANI	4 S/F	0850.4	0851.1	2.5	18	6		I
	9500	BERL	3 S	0850.5	0851.2	1.7	11			
	15000	KISV	2 S/F	0850.5	0851	3	10			
	1450	MANI	2 S/F	0850.5	0851.3	4.4	7.5	2.5		
	2695	ATHN	3 S	0850.6	0851.2	3.4	19.9	5.9		
	4995	ATHN	3 S	0850.6	0851.2	1.7	17.3	5.2		
	606	MANI	4 S/F	0850.6	0850.9	1.4	15.5	6		
	1415	ATHN	3 S	0850.7	0851.2	3.6	21.4	6.4		
	3000	BERL	8 S	0850.7	0850.9	.8	34			
	127	TORN	47 GB	0850.8	0851	1.1	3400	1700		
	8800	ATHN	3 S	0850.8	0851.2	1.9	16.5	4.9		
	6100	KISV	4 S/F	0850	0851	3	9			
	202	IZMI	5 S	0851	0851.5	.8	230	100		
	221	ABST	45 C	0851	0851.5	2	47	19		
	113	POTS	3 S	0851	0851.3	2.4	35000	7000		
	100	GORK		0851	0835.8U		200 D			
	100	GORK	41 F	0851	0851.8U	5.8	200 D			
	950	GORK	1 S	0851.5	0852	2.1	22			
	9100	GORK	1 S	0851.5	0852	2	17	8		
	650	GORK	2 SF	0851.6	0851.9	1	7	3		
	200	GORK		0851.6	0853		80			
	200	GORK	8 S	0851.6	0852	2	85 D			
	2950	GORK	3 S	0851.7	0852	.9	77	38		
	2650	DWIN	1 S	0851	0851.5	1	20	5		
	10715	DWIN	1 S	0851	0851.5	1	10	5		
	950	GORK	2 SF	0859.1	0859.5	2	7			
	650	GORK	1 S	0910.6	0911	1	5	2.5		
	9500	BERL	22 GRF	0925	0929.8	10	9.8			
	9100	GORK	1 S	0930.3	0930.6	1.6	7.5	3		
	950	GORK	1 S	0931.7	0931.9	.4	1			
	100	GORK	45	0932.3	0934 U	6.3	220 D			
	100	GORK		0932.3	0936.5U		220 D			
	127	TORN	45 C	0934.8	0935.4	3	440	100		
	113	POTS	45 C	0936.2	0937.3	3.8	700	140		
	9100	GORK	21 GRF	0947.8	1130	125	12	4.5		
	9500	BERL	22 GRF	1001	1016.2	19	15			
	1470	BERL	20 GRF	1008	1014	16	3.5			
	33	UPIC	42 SER	1009.2		142.9				
	29	UPIC	42 SER	1009.3	1013.5	143.6				
	3000	BERL	20 GRF	1009	1016	18	5.6			
	113	POTS	4 S/F	1012.6	1012.8	1.4	35000	8000		
	930	BORD	8 S	1012	1012	.1	53	1		
	100	GORK	8 S	1013	1013.2	.9	230 D			
	200	GORK	8 S	1013.1	1013.9	.7	80			
	9100	GORK	1 S	1016.6	1017.2	1	9	4.5		
	15000	KISV	2 S/F	1016	1016.8	2	10			
	808	ONDR	42 SER	1036	1145.8	71	60			
	9100	ARCE	21 GRF	1041.7	1048.6	19.5				RECORD DISTURBE
	10400	BERN	46	1042.3	1054.1	23	43			
	8400	BERN	46	1042.3	1054.1	23	46			11R
	10400	BERN	46 C	1042.3	1054.1	23	15	43		
	8400	BERN	46 C	1042.3	1054.1	23	17	46		
	10715	DWIN	42 SER	1042	1049	15	40	10		
	9100	GORK	1 S	1043.2	1045	3	12	6		
	2950	GORK	21 GRF	1045 E		100				
	9100	GORK	1 S	1048.5	1049.3	2	11	5.5		
	2950	GORK	1 S	1049.3	1049.4	.4	9.7	4.8		
	113	POTS	41 F	1049.5	1053.7	5.5	1400	100		
	100	GORK	45 C	1053.5	1054 U	1.9	230 D			
	100	GORK		1053.5	1064.7		230 D			
	7000	SAOP	46 C	1053.8	1054.2	1.2	39			
	9500	BERL	4 S/F	1053.8	1054	2.8	39			
	3000	BERL	3 S	1053.8	1054	2.7	29			
	9500	BERL		1053.8	1054.5		39			
	1470	BERL	4 S/F	1054	1054.4	2	39			
	3100	CRIM	1 S	1054	1054.5	2	14	5		
	200	GORK	8 S	1054.4	1055	1.4	77			
	650	GORK	4 SF	1054.7	1055.1	2.2	15.5	4		
	950	GORK	4 SF	1054.7	1055.3	1	63			
	2950	GORK	3 S	1054.8	1055.1	1.4	46	23		
	9100	GORK	46 C	1054.9	1055.6	2.3	5.1			
	9100	GORK		1054.9	1056.7		36			
	2650	DWIN	4 S/F	1054	1054.5	2	60	10		
	9100	ARCE	45 C	1054	1054.9	2				
	9100	ARCE		1054	1054.9	1.6				
	930	BORD	41 F	1054	1055.4	2	168	3		
	15000	KISV		1054	1056		57			
	15000	KISV	45 C	1054	1054.7	3	64			
	7000	SAOP	4 S/F	1055.5	1056	.8	26			
	9100	ARCE		1055.6	1056	3.6				
	6100	KISV		1055	1055.7		11			
	6100	KISV		1055	1054.5		14			
	6100	KISV	42 SER	1055	1054.3	5	14			
	930	BORD	8 S	1059	1059	.1	16	2		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
20	930	BORD	41	F	1104.8	1105.5	.8	44	2		
	8800	ATHN	3	S	1119.8	1123.6	11	44.2	13.3		
	4995	ATHN	3	S	1121	1123.7	12.6	47.5	14.3		
	10400	BERN	1		1123	1124.2	14	25			
	8400	BERN	1		1123	1124.2	14	35			17R
	10400	BERN	1	S	1123	1124.2	14	8	25		
	8400	BERN	1	S	1123	1124.2	14	13	35		
	7000	SAOP	3	S	1123.2	1124.2	1.4	49			
	2695	ATHN	3	S	1123.4	1123.7	1.3	23	6.9		
	1415	ATHN	2	GRF	1123.4	1123.7	1.8	10.5	6.3		
	6100	KISV	8	S	1123.5	1124.3	7	19			
	3000	BERL	29	PBI	1123.5	1124	6.5	29			
	9500	BERL	29	PBI	1123.5	1124	9.5	27			
	1470	BERL	3	S	1123.5	1124.3	2.5	6.4			
	9100	ARCE	4	S/F	1123.6	1124.4	2.5				
	15000	KISV	8	S	1123	1124.3	10	26			
	9100	GORK	3	S	1124.6	1125.1	1.8	34	17		
	950	GORK	3	S	1124.8	1125.2	1.2	15.5	7		
	2950	GORK	3	S	1124.9	1125.3	1.6	60	30		
	930	BORD	45	C	1124	1124.4	.8	42	2		
	2650	OWIN	2	S/F	1124	1124.5	1	25	10		
	10715	OWIN	2	S/F	1124	1124.5	2	25	10		
	7000	SAOP	1	S	1128	1129.2		6.5			
	202	IZMI	41	F	1128.5	1129	1.2	470			
	200	GORK	8	S	1128.8	1129.5	1.1	80			
	200	GORK			1136	1143.1		77			
	200	GORK	41	F	1136	1139	16.8	70			
	200	GORK			1136	1146.8		80			
	200	GORK	8		1138	1151.9		280			
	2695	ATHN	4	S/F	1144.8	1145.2	1.7	127.9	38.4		
	4995	ATHN	4	S/F	1144.8	1145.2	4.5	69.1	20.7		
	8800	ATHN	4	S/F	1144.9	1145.2	4.4	60.3	18.1		
	1415	ATHN	3	S	1145	1145.3	.7	10.5	3.1		
	9500	BERL	41	F	1145	1145.9	5	40			
	228	HARS	45	C	1145.2	1145.5	1.5	150	50		
	10400	BERN	2	S/F	1145.3	1145.9	18	12	34		
	8400	BERN	2	S/F	1145.3	1145.9	18	19	51		
	100	GORK	8	S	1145.3	1146 U	1.2	240 D			
	8400	BERN	2		1145.3	1146	18	51			21R
	10400	BERN	2		1145.3	1146	18	34			
	7000	SAOP	4	S/F	1145.4	1145.9	.8	80			56R
	260	ONDR	8	S	1145.5	1145.5	1	185			
	1470	BERL	3	S	1145.5	1145.8	2	18			
	3000	BERL	3	S	1145.5	1145.5	2	129			
	113	POTS	4	S/F	1145.5	1145.7	1	42000	2000		
	234	POTS	8	S	1145.5	1145.6	.5	200	20		
	127	TORN	47	GB	1145.6	1145.8	1	2000	700		
	9100	ARCE	3	S	1145.6	1146	1.2				
	930	BORD	41	F	1145	1147	2	131	4		
	2650	OWIN	4	S/F	1145	1146	2	100 D			
	10715	OWIN	45	C	1145	1146	5	30	5		
	6100	KISV			1145	1149		4			
	6100	KISV	45	C	1145	1145.7	5	41			
	15000	KISV	45	C	1145	1146	6	23			
	15000	KISV			1145	1149		6			
	950	GORK	3	S	1146	1146.5	1.2	25	12		
	2950	GORK	3	S	1146.4	1146.7	1.3	230	115		
	9100	GORK			1146.4	1148.8		11			
	9100	GORK	46	C	1146.4	1146.7	5.4	54			
	650	GORK	4	SF	1146.4	1146.6	.5	94	47		
	650	GORK	29	PBI	1146.4	1147	3.4	2.6			
	7000	SAOP	3	S	1148	1149	1.6	13			62R
	4995	ATHN	3	S	1228.3	1232.1	5.2	19.4	5.8		
	10400	BERN	2	S/F	1228.4	1232.6	12	11	31		
	8400	BERN	2	S/F	1228.4	1232.6	12	14	37		
	10400	BERN	2		1228.5	1232.6	12	31			
	8400	BERN	2		1228.5	1232.6	12	37			15R
	9500	BERL	28	PRE	1228.5	1232.5	6.5	32			
	3000	BERL	2	S/F	1229	1230.5	2.5	7.9			
	200	GORK			1229	1230.3		250			
	200	GORK	41	F	1229	1229.2	2	100			
	7000	SAOP	45	C	1229	1232.7	6.4	35			29R
	9400	HUAN		S	1229	1229.3	10.3	10.3	5.4		R
	2695	ATHN	3	S	1229.8	1230.1	.9	6.6	2		
	113	POTS	46	C	1229.9	1230.7	1.3	40000	200		
	127	TORN	47	GB	1229.9	1230.6	1.5	670	100		
	10715	OWIN	45	C	1229	1233	6	30	10		
	930	BORD	8	S	1229	1229.3	.4	37	1		
	808	ONDR	42	SER	1229	1326.8	68	60			
	100	GORK	4	SF	1230		1.6	240 D			
	8800	ATHN	3	S	1231.3	1232	3.3	36.2	10.9		
	9400	HUAN		S	1232.1	1232.7	5.2	29.3	11		R
	9100	ARCE	3	S	1232.3	1232.9	2.6				
	930	BORD	8	S	1232.4	1232.5	.1	21	1		
	9500	BERL	22	GRF	1256.5	1256.8	17	6.6			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
20	3000	BERL	41	F	1316	1326.8	14	32			
	9400	HUAN		S	1316.3	1317.2	1.5	8.6	7.6		R
	1470	BERL	41	F	1316.5	1327	14	13			
	8400	BERN	41		1316.6	1320.9	19	21			5R
	8400	BERN	41		1316.6	1317.1	19	15			6R
	8400	BERN	41		1316.6	1327.1	19	28			17R
	10400	BERN	41		1316.6	1320.9	19	14			
	7000	SAOP	3	S	1316.6	1317.1	.9	21			33R
	10400	BERN	41	F	1316.6	1317.1	19	4	11		
	8400	BERN	41	F	1316.6	1317.1	19	6	15		
	10400	BERN	41	F	1316.6	1327	19	7	18		
	8400	BERN	41	F	1316.6	1327	19	10	28		
	10400	BERN	41	F	1316.6	1320.9	19	5	14		
	8400	BERN	41	F	1316.6	1320.9	19	8	21		
	10400	BERN	41		1316.6	1317.1	19	11			
	10400	BERN	41		1316.6	1327.1	19	18			
	930	BORD	41	F	1316.8	1317.2	.9	23	3		
	9500	BERL	41	F	1317	1327	13	19			
	113	POTS	4	S/F	1317.2	1317.3	.3	500	70		
	2800	OTTA	1	S	1317	1317.1	1	4.8	2.4		
	10715	DWIN	42	SER	1317	1327	13	20	10		
	9400	HUAN		S	1320	1321	1.5	12	6		R
	7000	SAOP	3	S	1320.4	1321	.6	17			41R
	2800	OTTA	1	S	1320.7	1321	1	4.8	2		
	9400	HUAN		S	1325.6	1327.2	4.8	22.4	8.4		R
	7000	SAOP	3	S	1326	1327.2	2	28.5			49R
	930	BORD	41	F	1326.5	1326.8	1.5	19	2		
	4995	SGMR	3	S	1326.7	1327	3.1	24.6	9.8		
	15400	SGMR	3	S	1326.8	1327	2.1	19.4	7.8		
	8800	SGMR	1	S	1326.9	1327.8	1.7	8.5	3.4		
	1415	SGMR	3	S	1326.9	1327.4	3	16.4	6.6		
	2695	SGMR	3	S	1327.1	1327.4	2	39.6	15.8		
	2650	DWIN	3	S	1327	1327	2	45	10		
	2800	OTTA	3	S	1327	1327.3	2.5	38	9.6		
	10400	BERN	1	S	1347.8	1348.4	9	6	18		
	8400	BERN	1	S	1347.8	1348.4	9	8	20		
	10400	BERN	1		1347.9	1348.4	9	18			
	8400	BERN	1		1347.9	1348.4	9	20			10R
	9500	BERL	3	S	1348	1348.4	3	13			
	7000	SAOP	3	S	1348	1348.5	4.2	15.5			13R
	9400	HUAN		S	1348.1	1348.6	1.5	18.9	11.8		R
	7000	SAOP	3	S	1354.2	1355.2	10	18			52R
	9400	HUAN		S	1354.7	1420.8	46.7	20.7	9.3		R
	8800	ATHN	4	S/F	1408.9	1416.2	11.3	88.4	26.5		
	4995	ATHN	3	S	1409.2	1416.2	13	47.5	14.3		
	10400	BERN	46		1411.1	1416	49	64			
	10400	BERN	46	C	1411.1	1415.9	49	22	64		
	8400	BERN	46	C	1411.1	1415.9	49	28	79		
	8400	BERN	46		1411.1	1416	49	79			9R
	7000	SAOP	46	C	1411.4	1416	16.6	109			23R
	4995	SGMR	3	S	1411.5	1416	8.5	80	24		
	9500	BERL	4	S/F	1411.5	1415.9	8.5	79			
	9400	HUAN		C	1412.1	1416	7.5	86.1	38.9		R
	8800	SGMR	3	S	1412.2	1415.7	7	94	28		
	3000	BERL	3	S	1412.5	1415.7	11	41			
	10715	DWIN	42	SER	1412	1416	35	60	20		
	2650	DWIN	2	S/F	1413	1416	7	40	15		
	2695	ATHN	2	GRF	1414.4	1416.2	4	29.5	17.7		
	2695	SGMR	3	S	1414.8	1416.5	5	43	13		
	1470	BERL	3	S	1415	1416	3	5.9			
	15400	SGMR	3	S	1415	1415.8	2.5	34	10		
	2800	OTTA	20	GRF	1420	1503	80 D	7.2			
	9400	HUAN		S	1426.5	1428	8.3	25.8	10.3		R
	9500	BERL	3	S	1426.5	1427.2	3.5	37			
	2800	OTTA	240	R	1603	1610	7	3.6	1.8		
	10400	BERN	1		1610	1614.3	12	25			
	8400	BERN	1		1610	1614.3	12	40			18R
	10400	BERN	1	S	1610	1614.3	12	9	25		
	8400	BERN	1	S	1610	1614.3	12	15	40		
	4995	SGMR	3	S	1610.5	1614.4	18.5	57.4	23		
	1415	SGMR	3	S	1611.1	1615.6	17.9	17.8	7.1		
	4995	BOUL	3	S	1612.5	1613.5	7	48	16		
	2695	SGMR	3	S	1613.3	1614.9	15.7	72	28.8		
	9400	HUAN		S	1613.4	1614.5	4.4	31	17.4		R
	15400	SGMR	3	S	1613.4	1614.2	15.6	20.6	8.2		
	8800	SGMR	3	S	1613.5	1614.5	15.5	28.1	11.2		
	2800	OTTA	3	S	1613	1614.5	5	59	26.6		
	10715	DWIN	1	S	1613	1614	4	15	10		
	2650	DWIN	3	S	1613	1614	5	50	30		
	930	BORD	46	C	1614.4	1615.7	2.6	95	3		
	2695	BOUL	3	S	1614 E	1615.5	3.5D	76	25		
	2695	BOUL	29	PBI	1617.5	1617.5	41 U	29	10		
	2800	OTTA	30	PBI	1618	1618	50	11.8			
	7000	SAOP	46	C	1646	1648.7	5.5	167			27R
	1420	BOUL	47	GB	1646.5E	1649	3 D	713	238		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	2800	OTTA	46F C	1646.5	1648.5	8	96	24		
	1415	SGMR	47 GB	1646.8	1648.8	7.2	2010	804		S
	9400	HUAN		1646.8	1648.6		177.4			R
	9400	HUAN	C	1646.8	1647.1	6.5	93	51.1		R
	4995	BOUL	45 C	1646	1648.5	6.5	121	40		
	930	BORD	46 C	1645	1647.1	4	473	20		
	245	SGMR	48 GB	1647	1647.1	7	680	272		S
	410	SGMR	6 S	1647.1	1647.4	6.9	28.1	11.2		S
	2695	BOUL	45 C	1647.5	1648.5	2.5D	109	36		
	930	BORD	41 F	1651.8	1652.1	.5	22	2		
	7000	SAOP	3 S	1713	1714.6	17.6	37			47R
	2800	OTTA	21 GRF	1720	1820	420 D	68			
	7000	SAOP	4 S/F	1732	1849.2	2.2	26.5			26R
	7000	SAOP	21 GRF	1732		101.6	74			15R
	9400	HUAN	S	1734.7	1826	136.5	68.9	40.1		R
	1420	BOUL	28 PRE	1735.5E	1755	29.5D	37	12		
	2695	BOUL	28 PRE	1736 E	1756.5	20.5D	44	15		
	4995	BOUL	40 F	1740	1849 U	100	68	23		
	1415	SGMR	47 GB	1743	1806.2	105	277	190		S
	1415	SGMR	47 GB	1743	1847.9		855			S
	4995	SGMR	3 S	1744	1806.2	104	31	9		S
	2695	SGMR	47 S	1748	1805	100	162	49		S
	245	SGMR	7 C	1752	1851.8		460			S
	245	SGMR	7 C	1752	1802.7	96	220	140		S
	410	SGMR	7 C	1754	1806.1	94	153	46		S
	410	SGMR	7 C	1754	1911		30			S
	8800	SGMR	3 S	1755.8	1811.4	92.2	50	15		S
	1420	BOUL	40 F	1755	1806	14	243	81		
	2800	OTTA	4 S/F	1755	1804.6	23	95	45		
	15400	SGMR	3 S	1756	1823.4	92	36	14		S
	2695	BOUL	40 F	1756.5	1806	19	172	57		
	1420	BOUL	29 PBI	1809	1812.5	7	56	19		
	2695	BOUL	29 PBI	1816	1816	35 U	76	25		
	9400	HUAN	S	1847.9	1849.2	2	15.5	10.3		R
	2800	OTTA	4 S/F	1848.5	1849	2	15.2	7.6		
	1420	BOUL	45 C	1848 E	1848.5	2 D	443	148		
	1420	BOUL	4 SF	1934.5E	1935	1 D	23	8		
	2800	OTTA	1 S	1935	1935.6	2	2.4	.8		
	7000	SAOP	46 C	1956.6	2010.2	20	26.5			45R
	9400	HUAN	S	2000.3	2010	17.9	18.9	5.5		R
	1420	BOUL	4 SF	2001.5E	2002	1 D	46	15		
	2695	PENT	40 F	2001	2010	11	2.2			
	1420	BOUL	4 SF	2007	2007.5	1 D	17	6		
	2800	OTTA	1 S	2104	2104.7	1.2	2.6	1.3		
	2800	OTTA	21 GRF	2115	2230	165	21	12.8		
	9400	HUAN	C	2117.8	2129.8	19.3	79.2	28.5		R
	2695	PENT	1 S	2117	2118	2	2.6	1.3		
	4995	BOUL	40 F	2127.5	2207 U	107.5	184	61		
	8800	SGMR	3 S	2128	2129.7	9.3	87	34.8		S
	4995	SGMR	3 S	2128.4	2129.7	10.8	56	22.4		S
	2800	OTTA	46F C	2128.5	2130	9	44.2	11		
	1420	BOUL	42 SER	2128.5E	2130	5.5D	114	38		
	2695	SGMR	3 S	2128.6	2130	11.4	25	10		S
	1415	SGMR	3 S	2129.5	2129.8	9.5	231	92		S
	2695	BOUL	42 SER	2129 E	2131	6.5U	47	16		
	410	SGMR	6 S	2131	2131.6	5	143	57.2		S
	245	SGMR	48 GB	2131	2131.5	8	11700	4680		S
	1420	BOUL	29 PBI	2144.5E	2146	2.5D	9	3		
	9400	HUAN	S	2144.7	2148.2	7.7	17.2	8.4		R
	2800	OTTA	4 S/F	2144	2148	6	30	14		
	1420	BOUL	3 S	2147	2148	3	28	9		
	2695	BOUL	3 S	2148 E	2149	2.5D	31	10		
	9400	HUAN	C	2156.3	2216.3	29.5	115.4	44.4		R
	2695	PENT	4 S/F	2156	2202	11	30	9.2		
	1420	BOUL	4 SF	2200.5	2202	2.5	70	23		
	1415	SGMR	3 S	2200.6	2201.3	4.4	75	22		
	2695	BOUL	45 C	2202 E	2205	3.5D	63	21		
	2695	PENT	4 S/F	2213.5	2216.5	13	188	25.4		
	1420	BOUL	45 C	2215.5E	2216.5	5 D	84	28		
	500	HIRA	46 C	2216.2	2217.4	3	125	55		SL
	2695	BOUL	4 SF	2216 E	2217	3.5D	230	77		
	606	MANI	4 S/F	2332.7	2334.4	2.6	35.3	23.5		
	1415	MANI	4 S/F	2333.8	2334.4	1.2	149.3	99.5		
	1415	MANI	4 S/F	2344.8	2346.3	10.2	308.1	205.4		
	4995	BOUL	45 C	2344	2347.5	9.5	100	33		
	2695	MANI	4 S/F	2345.4	2346.5	9.8	70.4	46.9		I
	1420	BOUL	45 C	2345.5E	2346.5	2.5D	130	43		
	2695	PENT	46F C	2345	2346.7	9	75.6	17		
	606	MANI	4 S/F	2346.2	2351.9	7.5	63.1	42.1		
	2695	BOUL	45 C	2346.5E	2347.5	7.5D	119	40		
21	100	GORK	44 NS	0524 E		156		10		
	208	GORK	44 NS	0530		510 E		15		
	202	IZMI	44 NS	0600		130	300			
	127	TORN	44 NS	0640 E	1326.8	510 D	230	4		V1

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
21	221	ABST	44	NS	0800	0831.5	60	39			
	260	ONDR	44	NS	0810 E		408 D	98	8		
	410	SGMR	44	NS	1136 E	1851.8	642 D	322			
	245	SGMR	44	NS	1136 E	1926.8	642 D	245			
	200	HIRA	44	NS	2120 E	2310	400 D	30	7		ML
	650	GORK	3	S	0542.8	0543	.9	12	6		
	15000	KISV			0600	0600.3		8			
	15000	KISV	45	C	0600	0604	10	10			
	9100	GORK	20	GRF	0602	0605	15.7	11	4		
	6100	KISV	2	S/F	0602	0604.7	11	5			
	200	GORK	8	S	0604.2	0604.5	.5	270			
	100	GORK	8	S	0650.7	0650.8	.4	200 D			
	100	GORK	8	S	0737	0737.2	.4	240 D			
	202	IZMI	4	S/F	0739	0740	2	180	100		
	200	GORK	4	SF	0807.7	0809.8	3	70			
	650	GORK	20	GRF	0815.6	0824.5	10	5.6	2.5		
	650	GORK	1	S	0829.2	0832.3	5.4	5.6	2.5		
	930	BORD	8	S	0839.2	0839.2	.2	16	1		
	200	GORK	46	C	0842.4	0842.9	2.4	75			
	200	GORK			0842.4	0844		75 D			
	650	GORK	20	GRF	0849	0911.7	28.3	5.6			
	33	UPIC	42	SER	0928.8		164.9				
	29	UPIC	42	SER	0928.8	1107.5	161.1				
	100	GORK			0928.8	0938		340 D			
	100	GORK	41	F	0928.8	0929	10	340 D			
	100	GORK			0928.8	0936.1		340			
	100	GORK			0928.8	0933.4		340 D			
	113	POTS	42	SER	0928.9	0933.5	9.3	3200	30		
	234	POTS	42	SER	0928.9	0937.7	9.8	300	1		
	650	GORK	4	SF	0928.9	0931.9	5.1	100	25		
	650	GORK	30	PBI	0928.9	0934	12.2	9			
	950	GORK			0929.3	0937.9		189			
	950	GORK			0929.3	0933.5		112			
	950	GORK	46	C	0929.3	0932.6	13.7	219			
	930	BORD	46	C	0929	0938.3	14	266	28		
	808	ONDR	48	C	0929	0932.8	21	121	24		
	10400	BERN	4	S/F	0930.2	0933.3	14	105	315		
	8400	BERN	4	S/F	0930.2	0933.3	14	106	283		
	10400	BERN	4		0930.3	0933.4	14	315			
	9100	GORK	4	SF	0930.3	0933.5U	11	338			
	8400	BERN	4		0930.3	0933.4	14	283			42
	536	ONDR	48	C	0930	0933.1	20	65	7		
	6100	KISV	8	S	0930	0933.3	13	335			
	1470	BERL	45	C	0931	0933.9	17	69			
	3000	BERL	4	S/F	0931	0932.6	16	226			
	9500	BERL	4	S/F	0931	0933	9	313			
	2695	ATHN	4	S/F	0931.1	0933.4	11.9	275.9	82.8		
	1415	ATHN	4	S/F	0931.2	0933.6	14.1	65.6	19.7		
	8800	ATHN	4	S/F	0931.2	0933.4	11	423	126.9		
	4995	ATHN	4	S/F	0931.5	0933.5	10.6	247.2	74.1		
	2950	GORK			0931.7	0937.8		93			
	2950	GORK			0931.7	0933.3		280			
	2950	GORK	45	C	0931.7	0932.7	11.3	70			
	15000	KISV	8	S	0931	0933.5	5	743			
	10715	DWIN	45	C	0931	0934	8	250 D			
	2650	DWIN	45	C	0931	0933	12	110 D			
	260	ONDR	46	C	0933	0937.6	9	209	15		
	200	GORK	4	SF	0937.4	0938.2	1.4	75			
	650	GORK			0938	0942.5		32			
	650	GORK	45	C	0938	0939	5.2	13			
	930	BORD	8	S	0946.8	0946.8	.1	18	1		
	9100	GORK	21	GRF	0947.8	1127	159.5	36	17		
	650	GORK	1	S	0949.2	0950.3	2.3	6	2		
	930	BORD	41	F	0949.8	0949.8	.8	30	2		
	6100	KISV	2	S/F	0957	1000	5	4			
	650	GORK	4	SF	0959.6	1000.6	1.7	73	18		
	10400	BERN	4		1022	1215.5	128	35			
	8400	BERN	4		1022	1215.5	128	49			
	10400	BERN	4	S/F	1022	1215.4	128	12	35		
	8400	BERN	4	S/F	1022	1215.4	128	18	49		
	3000	BERL	20	GRF	1022	1048	38	13			
	9500	BERL	20	GRF	1022	1048	35	9.5			
	1470	BERL	20	GRF	1024	1048.5	33	2.8			
	536	ONDR	3	S	1026.6	1026.6	.3	10			
	234	POTS	8	S	1029.1	1029.2	.2	300	50		
	200	GORK			1036.6	1037.1	4.7	70 D			
	200	GORK	4	SF	1036.6	1041.3		75			
	113	POTS	41	F	1045	1045.6	.8	700	70		
	108	GORK	45	C	1045	1045.1	.8	360			
	100	GORK			1045	1045.6		360 D			
	15000	KISV	1	S	1059.5	1000	12	7			
	1470	BERL	21	GRF	1103	1112	80	3.6			
	536	ONDR	2	S/F	1106.5	1107.2	2	11			
	108	GORK	45	C	1106.8E	1106.9	2.7D	4100			
	100	GORK			1106.8E	1107.5		4100			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
21	100	GORK			1106.8E	1109		4100			
	100	GORK			1106.8E	1108.5		4100			
	930	BORD	41	F	1107.4	1107.4	.8	23	2		
	113	POTS	41	F	1108.4E	1108.4	2.3D	4200			
	234	POTS	8	S	1110.5	1110.5	.1	210	70		
	9500	BERL	21	GRF	1113	1135	70	27			
	3080	BERL	21	GRF	1113	1129.5	71	12			
	6100	KISV	21	GRF	1114	1139.8	49	9			
	6100	KISV			1114	1140		5			
	6100	KISV			1114	1129.5		7			
	6100	KISV			1114	1150		4			
	7000	SAOP	45	C	1127	1129.7	14	28			29R
	9100	GORK	1	S	1128.5	1129.7	2.2	8	4		
	1470	BERL	8	S	1129.2	1129.7	.8	11			
	9100	GORK	1	S	1134	1135	2.2	10	5		
	808	ONDR	8	S	1207	1207	.2	48			
	113	POTS	4	S/F	1208.7	1208.8	.2	200	30		
	8800	ATHN	3	S	1213.5	1215.1	9.1	36.6	11		
	4995	ATHN	3	S	1213.6	1215.5	8.8	31.7	9.5		
	9100	GORK	5	S	1213.6	1215.6	3.8	43	20		
	9400	HUAN		S	1213.8	1215.6	3.7	33.7	21.7		R
	7000	SAOP	46	C	1214	1215.6	2.8	50			14R
	9500	BERL	3	S	1214	1215.2	9	38			
	3000	BERL	3	S	1214.2	1215.7	7.8	17			
	1415	ATHN	3	S	1214.3	1214.9	2.7	7	2.1		
	2695	ATHN	3	S	1214.4	1215.6	4.4	10.1	3		
	1470	BERL	3	S	1214.5	1215.9	4	6.3			
	10715	DWIN	1	S	1214	1216	4	15	10		
	2650	DWIN	1	S	1214	1216	4	15	10		
	536	ONDR	42	SER	1214	1216.5	2.5	21			
	6100	KISV	45	C	1219	1220.5	11	14			
	6100	KISV			1219	1226		1			
	7000	SAOP	3	S	1220	1221.2	1.2	10.5			66R
	228	HARS	45	C	1233.8	1234	1.5	165	40		
	536	ONDR	3	S	1301.3	1301.3	.2	11			
	9100	ARCE	3	S	1314.3	1315.8	3.6				RECORD DISTURBE
	113	POTS	41	F	1326.1	1327.1	11	175	1		
	7000	SAOP	45	C	1332.5	1334.6	4.2	10.5			19R
	7000	SAOP	21	GRF	1350.4			8			43R
	7000	SAOP	3	S	1350.4	1407	4	10.5			24R
	2800	OTTA	21	GRF	1358		132	13.2			
	10400	BERN	4	S/F	1411	1420.2	100	72	216		
	8400	BERN	4	S/F	1411	1420.2	100	77	206		
	10400	BERN	4		1411.1	1420.2	100	218			
	8400	BERN	4		1411.1	1420.2	100	206			3R
	9400	HUAN		C	1412.7	1420.2	10.7	269.4	101.9		R
	7000	SAOP	46	C	1413.3	1420.2	11.6	225			12R
	1415	ATHN	2	GRF	1413.7	1420.7	24.6	14	8.3		
	8800	ATHN	4	S/F	1413.8	1420.4	38.7	399.1	119.7		
	4995	SGMR	3	S	1414	1420.1	16	128	38.4		SWF
	9500	BERL	4	S/F	1414.5	1420	26	221			
	9100	ARCE	4	S/F	1414	1420.4	12.4				
	10715	DWIN	45	C	1414	1420	25	180	50		
	8800	SGMR	3	S	1415.1	1420.1	20.1	288	86.4		SWF
	4995	ATHN	4	S/F	1415.5	1420.6	37	109.7	32.9		
	2695	ATHN	3	S	1415.7	1420.4	7.4	40.4	12.1		
	1470	BERL	4	S/F	1416.5	1420.7	6.5	6.6			
	1415	SGMR	3	S	1416.5	1417	6.5	11	2.2		SWF
	2650	DWIN	4	S/F	1416	1420	9	40	15		
	3000	BERL	4	S/F	1417	1420	8	49			
	2695	SGMR	3	S	1417	1420.6	7	58.4	17.5		SWF
	15400	SGMR	3	S	1417.3	1420.2	17.3	389	117		SWF
	930	BORD	41	F	1418.4	1418.9	2.6	30	2		
	808	ONDR	42	SER	1418.5	1419	11	81			
	606	SGMR	3	S	1418.8	1419	3.3	14.6	2.9		SWF
	35000	SGMR	3	S	1419	1420.3	11	203	60.9		SWF
	536	ONDR	42	SER	1419	1419	3	10			
	9400	HUAN		PBI	1423.4	1423.4	29.6	57.2	25.6		0
	9100	ARCE	29	PBI	1426.4		47				
	245	SGMR	48	GB	1525.9	1526.1	.4	4050	810		5
	410	SGMR	6	S	1525.9	1526.1	.3	56	11		5
	7000	SAOP	46	C	1555	1556.9	1.2	309			10R
	10400	BERN	3	S	1555.3	1556.8	21	140	414		
	8400	BERN	3	S	1555.3	1556.8	21	130	348		
	8400	BERN	3		1555.3	1556.8	21	348			4R
	10400	BERN	3		1555.3	1556.8	21	414			
	1415	SGMR	3	S	1555.3	1557.2	13.3	90	18		5,SWF
	15400	SGMR	47	GB	1556.1	1556.8	12	720	144		5,SWF
	8800	SGMR	47	GB	1556.2	1556.8	11.9	560	112		5,SWF
	9100	ARCE	3	S	1556.2	1557	3.5				
	606	SGMR	47	GB	1556.4	1556.9	9.8	1270	254		5,SWF
	930	BORD	45	C	1556.5	1557.3	5.5	187	18		
	245	SGMR	48	GB	1556.7	1557.1	1.4	1110	222		5,SWF
	35000	SGMR	47	GB	1556.7	1556.9	3.1	617	123		5,SWF
	410	SGMR	48	GB	1556.8	1557	.7	1210	242		5,SWF

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	4995	SGMR	3 S	1556.8	1557.1	11.3	137	27		5,SWF
	2695	SGMR	3 S	1556.8	1557.3	11.4	250	50		5,SWF
	10715	DWIN	3 S	1556	1557	3	250 D			
	2650	DWIN	3 S	1556	1557	4	110 D			
	1420	BOUL	3 S	1556 E	1557	3 D	79	26		
	2800	OTTA	3 S	1556	1557	3	178	55		
	7000	SAOP	8 S	1557.2	1557.6	.4	12			0
	2695	BOUL	45 C	1557 E	1557.5	10 D	229	76		
	2800	OTTA	30 PBI	1559	1559	10	13.2	4.4		
	2800	OTTA	4 S/F	1600	1601	2	10.4	5.4		
	2800	OTTA	4 S/F	1605	1605.6	2	17	8		
	4995	BOUL	45 C	1616.5	1620	4	81	27		
	2800	OTTA	20 GRF	1622	1628	30	7	3		
	2800	OTTA	1 S	1751	1752.2	3	2.8	1.4		
	4995	BOUL	42 SER	1755	1756.5	12	197	66		
	7000	SAOP	40 F	1814	1827.8		12			29R
	410	SGMR	6 S	1831.8	1832	.5	61	12		3
	245	SGMR	48 GB	1831.9	1832	.9	1040	208		3
	7000	SAOP	4 S/F	1840	1841.3	.3	29			24R
	2800	OTTA	1 S	1840.5	1841.3	1.5	6.4	3		
	4995	BOUL	4 SF	1840	1840.5	1.5	22	7		
	245	SGMR	48 GB	1903.3	1905	2.7	597	120		
	410	SGMR	48 GB	1904.9	1905	1.1	3700	740		
	8800	SGMR	3 S	1909.4	1912	8.5	160	48		
	2800	OTTA	1 S	1938	1943	10	3.8	1.9		
	7000	SAOP	3 S	1941	1942.5	2.4	21			50R
	2800	OTTA	21 GRF	1950	2059	225	13.8	6.9		
	8800	SGMR	3 S	2012.1	2017	5.5	167	33		
	2800	OTTA	1 S	2023.8	2024.3	1	2.2	1		
	245	SGMR	48 GB	2043.6	2044.5	3.6	5460	1090		3G
	410	SGMR	48 GB	2044.1	2044.3	2.2	605	121		3G
	606	SGMR	3 S	2044.4	2044.6	1.6	13.1	2.6		3G
	2800	OTTA	1 S	2131.9	2132	1	3.4	1.7		
	1420	BOUL	8 S	2132 E	2132.5	1 D	78	26		
	1420	BOUL	8 S	2152 E	2152.5	1 D	41	14		
	2695	PENT	21 GRF	2245	2247	40	8.8	3		
	2695	PENT	1 S	2247.8	2248.5	2	3.8	1.9		
	4995	BOUL	45 C	2319	2324	14.5	67	22		
	2930	VORO	42 SER	2340	2347	15	61			
	2695	PENT	1 S	2357	2357.8	2	4.2	2		
22	2695	MANI	4 S/F	0504.3	0507.5	9.9	74.4	24.8		
	5730	IRKU		0504.5	0512.4		77			R
	5730	IRKU		0504.5	0509		76			R
	5730	IRKU		0504.5	0507		72 D			R
	5730	IRKU		0504.5	0505.5		67			R
	5730	IRKU	45 C	0504.5	0505.1	18	36			R
	1415	MANI	4 S/F	0504.8	0506.6	8.9	21.1	7		
	8800	MANI	4 S/F	0505.3	0507.5	6.9	266.5	103.1		
	8800	ATHN	1 F	0506.1E	0510.1	26.9D	450.8	225.4		
	4995	ATHN	1 F	0506.1E	0510.1	28.7D	331.8	165.9		
	2695	ATHN	1 F	0506.1E	0510	21.9D	243.6	121.8		
	1415	ATHN	1 F	0506.1E	0510.1	15.8D	128.1	64.1		
	606	MANI	4 S/F	0506.8	0509.2	2.8	15.1	5		
	35000	NAGO	5 S	0507	0508	13	73			
	35000	NAGO	29 PBI	0520	0526	55	20			
	200	GORK	43 NS	0548		420		5		
	202	IZMI	44 NS	0600		360	55			
	221	ABST	43 NS	0720	0725.2	23	34			
	127	TORN	44 NS	0740 E	1452.7	450 D	140	13		V1
	260	ONDR	44 NS	0744 E		426 D	28	2		
	113	POTS	44 NS	1120 E	1421	193 D	50			
	100	GORK	43 NS	1122		98 E		15		
	410	SGMR	44 NS	1135 E	2105	644 D	39.6			CONT,SWF
	245	SGMR	44 NS	1135 E	1655.8	644 D	218			CONT,SWF
	6100	KISV	4 S/F	0600	0607	15	12			
	15000	KISV	4 S/F	0600	0607	15	57			
	5730	IRKU	21 GRF	0605	0607.4	6	18	6		R
	9100	GORK	1 S	0607	0607.7	1.2	17	8		
	650	GORK	2 SF	0607.2E	0608.4	1.2	2			
	950	GORK	3 S	0607.5	0607.7	.7D	56	28		
	200	GORK	41 F	0608	0608.8	12.4	35			
	200	GORK		0608	0616.4		35			
	200	GORK		0608	0620		240			
	200	GORK		0608	0612.8		35 D			
	100	GORK		0617.1	0623.8		35			
	100	GORK		0617.1	0621.6		35			
	100	GORK	41 F	0617.1	0620	7	70			
	15000	KISV	4 S/F	0645	0658	30	82			
	6100	KISV	4 S/F	0645	0658	30	48			
	4995	ATHN	4 S/F	0657.6	0658.2	5.4	68.7	20.6		
	2695	ATHN	4 S/F	0657.7	0658.2	4.3	53	15.9		
	8800	ATHN	4 S/F	0657.7	0658.1	2.8	68	20.4		
	606	MANI	8 S	0657.7	0658	.8	178.9	12.6		
	2695	MANI	4 S/F	0657.8	0658.2	1.4	49	16.3		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
22	1405	MANI	4	S/F	0657.8	0658	1.2	19.2	6.4		
	1415	ATHN	3	S	0657.9	0658.2	1.8	22	6.6		
	650	GORK	3	S	0658	0658.3	.9	55	12		
	9100	GORK	5	S	0658	0658.2	1.2	46.5	23		
	950	GORK	3	S	0658	0658.5	1.2	10	5		
	202	IZMI	41	F	0725.3	0726.2	16.2	130			
	100	GORK			0726.3	0753.2		325			
	100	GORK			0726.3	0732		245			
	100	GORK	41	F	0726.3	0729.2	27	225			
	100	GORK			0726.3	0751.3		325			
	100	GORK			0726.3	0730.7		275			
	100	GORK			0726.3	0748.7		325			
	200	GORK			0726.5	0738.3		77			
	200	GORK			0726.5	0741.6		77			
	200	GORK			0726.5	0732.1		70			
	200	GORK	41	F	0726.5	0726.7U	15.5	70 D			
	113	POTS	40	F	0731	0757.5	29	500	5		
	200	GORK			0819.6	0826.8		80			
	200	GORK			0819.6	0830.6		65			
	200	GORK	41	F	0819.6	0823.1	20.2	60			
	200	GORK			0819.6	0839.3U		80 D			
	9100	ARCE	22	GRF	0821.7	0822.9	10.5				RECORD DISTURBE
	15000	KISV	8	S	0821	0821.6	1	9			
	9100	GORK	20	GRF	0822.3	0823	21.2	11	4		
	2950	GORK	1	S	0822.7	0823.3	2.2	16	8		
	200	GORK			0909.6	0923.8		85			
	200	GORK	41	F	0909.6	0912.7	23.4	85			
	200	GORK			0909.6	0930.5		55			
	3000	BERL	4	S/F	0910.5	0912.3	6.5	97			
	8800	ATHN	14	C	0910.8	0914.4		131.4	37.9		
	9100	GORK	29	PBI	0910.8	0915.4	33.9	22.5	18		
	8800	ATHN	14	C	0910.8	0912.3	37.9	131.4	39.4		
	9100	GORK			0910.8	0914.2		111			
	9100	GORK	45	C	0910.8	0912.1	4.7	128			
	10400	BERN	46	C	0910.9	0912.1	13	27	79		
	8400	BERN	46	C	0910.9	0912.1	13	44	117		
	10400	BERN	46	C	0910.9	0914.2	13	26	74		
	8400	BERN	46	C	0910.9	0914.2	13	36	96		
	6100	KISV	45		0910	0912	10	78			
	6100	KISV			0910	0914		71			
	15000	KISV	46	C	0910	0912	7	61			
	9500	BERL	4	S/F	0911	0912	8	95			
	8400	BERN	46		0911	0912.2	13	117			10R
	8400	BERN	46		0911	0914.2	13	96			17R
	10400	BERN	46		0911	0914.2	13	74			
	10400	BERN	46		0911	0912.2	13	79			
	4995	ATHN	14	C	0911.1	0912.2	35.9	161.2	48.3		
	2950	GORK			0911.1	0914.2		50	25		
	2950	GORK	45	C	0911.1	0912.2	4.3	194	65		
	2695	ATHN	14	C	0911.1	0912.2	31.6	84.7	25.4		
	1415	ATHN	4	S/F	0911.1	0912	5.7	65.9	19.8		
	9100	ARCE			0911.2	0912.3	2.5				
	9100	ARCE	45	C	0911.2	0912.3	5				
	2695	MANI	3	S/F	0911.4	0912.3	1.6	65.4	39.4		
	1415	MANI	4	S/F	0911.5	0912.1	1.4	90.2	60.2		
	950	GORK	1	S	0911.8	0912.3	1	1			
	10715	DWIN	45	C	0911	0913	6	80	30		
	2650	DWIN	4	S/F	0911	0913	6	80	20		
	1470	BERL	4	S/F	0912	0912.5	1.5	69			
	9100	ARCE			0913.7	0914.5	2.5				
	9100	ARCE	30	PBI	0916.2		36				
	9100	ARCE	1	S	0925.3	0925.4	.5				
	950	GORK	3	S	1024.1	1024.4	.5	6	3		
	3000	BERL	1	S	1057	1057.9	1	4.3			
	1470	BERL	1	S	1057	1057.8	1	1.4			
	6100	KISV	24	R	1100			19			
	8400	BERN	20		1110.8	1124.2	55	42			OPR
	10400	BERN	20		1110.8	1124.2	55	29			OPR
	10400	BERN	20	GRF	1110.8	1124.2	55	10	29		
	8400	BERN	20	GRF	1110.8	1124.2	55	16	42		
	15000	KISV	24	R	1110			12			
	2650	DWIN	20	GRF	1112	1140	58	15	10		
	9100	GORK	21	GRF	1114.5	1124.2	76.5E	40			
	8800	ATHN	2	GRF	1114.6	1122.2	47.1	58.4	29.2		
	4995	ATHN	2	GRF	1115.5	1124.3	47	25.4	15.2		
	2695	ATHN	2	GRF	1115.8	1124.3	47.3	26.2	15.7		
	1415	ATHN	2	GRF	1115.8	1124.4	47.3	9.8	5.9		
	10715	DWIN	20	GRF	1115	1125	60	20	15		
	9500	BERL	20	GRF	1115	1124	51	34			
	1470	BERL	22	GRF	1116	1124.4	24	9.8			
	200	GORK	41	F	1117.6	1117.6	10.4	65			
	200	GORK			1117.6	1127.8		40			
	200	GORK			1117.6	1123.8		77			
	3000	BERL	22	GRF	1119	1124	54	17			
	950	GORK	1	S	1124	1124.4	.6	3.8	1.9		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
22	2950	GORK	1 S	1124	1124.1	.5	15	7.5		
	228	HARS	45 C	1141	1141.5	1.5	130	30		
	200	GORK	41 F	1145	1151.7	38.4	75			
	200	GORK		1145	1211.2		70			
	200	GORK		1145	1221.6		60			
	8800	ATHN	3 S	1218.6	1219.2	2.2	43.8	13.1		
	3000	BERL	3 S	1218.7	1219.2	1.3	16			
	9100	GORK	5 S	1218.7	1219.2	1.2	48.5	24		
	7000	SAOP	4 S/F	1218.7	1219.1	.8	36.5			27R
	1470	BERL	1 S	1218.8	1219	1.2	1.5			
	9500	BERL	29 PBI	1218.8	1219.2	1.7	39			
	9100	ARCE	4 S/F	1218.9	1219.3	1.4				
	4995	ATHN	3 S	1218.9	1219.3	2.4	27.7	8.3		
	2695	ATHN	3 S	1218.9	1219.3	1.3	23	6.9		
	10400	BERN	3 S	1219	1219.2	2	14	41		
	10400	BERN	3	1219	1219.2	2	41			OPR
	2950	GORK	1 S	1219	1219.2	1.2	20	10		
	10715	DWIN	4 S/F	1219	1219.5	1	45	15		
	2650	DWIN	1 S	1229	1219.5	1	15	5		
	3000	BERL	4 S/F	1252	1254	7	74			
	4995	SGMR	3 S	1252.2	1253.4	7.8	108	21.6		CONT,SWF
	8800	SGMR	3 S	1252.3	1253.6	2.3	106	21.2		CONT,SWF
	10400	BERN	45 C	1252.4	1253.7	17	21	60		
	10400	BERN	45	1252.4	1253.7	17	60			OPR
	9100	ARCE	4 S/F	1252.4	1253.9	2.7				
	2695	ATHN	14 C	1252.5	1253.8	6.8	62.3	18.7		
	2950	GORK	3 C	1252.5	1253.7	3.4	115			
	950	GORK		1252.5	1254.8		25			
	950	GORK	45 C	1252.5	1253.6	4.4	15			
	9500	BERL	29 PBI	1252.5	1253.5	13	79			
	1470	BERL	3 S	1252.5	1254	7.5	31			
	8800	ATHN	14 C	1252.5	1253.8	6.5	107.1	32.1		
	1415	ATHN	2 GRF	1252.5	1253.9	6.8	16.4	9.8		
	4995	ATHN	14 C	1252.5	1253.8	6.8	94.7	28.4		
	2800	OTTA	4 S/F	1252.5	1253.8	4	55	19.2		
	2695	SGMR	3 S	1252.7	1254.1	6.3	73.6	14.7		CONT,SWF
	650	GORK	4 SF	1252.7	1253.7	2.2	36	4		
	7000	SAOP	46 C	1252.8	1253.7	2.6	123			40R
	808	ONDR	45 C	1252	1253.5	4.5	86	6		
	930	BORD	45 C	1252	1254.6	4	168	9		
	10715	DWIN	4 S/F	1252	1254	4	60	20		
	2650	DWIN	4 S/F	1252	1254	8	70	20		
	15400	SGMR	3 S	1253.3	1254.3	2.7	38.6	7.7		CONT,SWF
	9100	ARCE	29 PBI	1255.1		13				
	2800	OTTA	21 GRF	1320	1340	95	8.2	4.2		
	7000	SAOP	1 S	1328	1329.2		7.5			0
	2800	OTTA	1 S	1400.5	1401	1.5	3.8	1.9		
	2800	OTTA	20 GRF	1510	1515	12	2.8	1.6		
	2800	OTTA	3 S	1531	1534.6	9	18.6	6.2		
	7000	SAOP	46 C	1532.4	1535	4.6	69			33L
	10400	BERN	4 S/F	1532.4	1535	7	10	29		
	10400	BERN	4	1532.4	1535	7	29			OPR
	4995	SGMR	3 S	1532.5	1540	2.3	58.7	23.5		CONT,SWF
	4995	ATHN	2 GRF	1533	1535.1	6	39.3	23.6		
	8800	ATHN	2 GRF	1533	1534.4	6	48.7	29.2		
	2695	ATHN	2 GRF	1533	1534.5	6	9.8	5.9		
	15400	SGMR	3 S	1533.1	1534.2	6.9	15	6		CONT,SWF
	8800	SGMR	3 S	1533.3	1535	6.7	66.5	26.6		CONT,SWF
	2695	SGMR	3 S	1533.4	1540	3.4	20	8		CONT,SWF
	10715	DWIN	1 S	1533	1535	4	20	10		
	2650	DWIN	1 S	1533	1535	5	20	10		
	2800	OTTA	22 GRF	1555	1602.5	15	9.8	3.4		
	7000	SAOP	46 C	1631	1636.6	6	152			32R
	4995	SGMR	3 S	1631.2	1636.2	9.3	144	57.6		CONT,SWF
	2800	OTTA	45 C	1631	1636.5	9	85	19		
	2695	SGMR	3 S	1632	1637	9.6	80.3	32.1		CONT,SWF
	8800	SGMR	3 S	1632.4	1636.4	6.6	118	47.2		CONT,SWF
	1420	BOUL	45 C	1632.5E	1636.5	6 D	23	8		
	4995	BOUL	45 C	1632.5E	1637	6 D	110	37		
	15400	SGMR	3 S	1632.5	1635.5	6.5	97.7	39.1		CONT,SWF
	2695	BOUL	45 C	1632.5E	1637.5	7.5D	92	31		
	930	BORD	46 C	1632	1634.1	3	80	6		
	10400	BERN	4	1635.9	1636.6	3.5	110			OPR
	10400	BERN	4 S/F	1635.9	1636.6	3.5	38	110		
	2800	OTTA	29 PBI	1640	1640	15	4.8	2.4		
	7000	SAOP	46 C	1756	1758.6	6.4	13			38R
	2800	OTTA	21 GRF	1800	1810	90	7.2	3.6		
	7000	SAOP	46 C	1805	1809.6	16.8	43			16R
	8800	SGMR	3 S	1806.5	1809.5	8.5	33.7	13.5		CONT,SWF
	4995	SGMR	3 S	1806.5	1809.4	8.5	27.3	10.9		CONT,SWF
	15400	SGMR	3 S	1806.6	1809.5	8.4	15.2	6.1		CONT,SWF
	4995	SGMR	3 S	1856.3	1857.2	6.7	134	53.6		CONT,SWF
	4995	BOUL	45 C	1856.5	1857.5	3.5	111	37		
	7000	SAOP	4 S/F	1857	1858.5	24.2	152			31R
	15400	SGMR	3 S	1857.2	1858.2	3.8	141	56.4		CONT,SWF

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	2800	OTTA	3	S	1857.2	1858.5	3.8	78	20		
	8800	SGMR	3	S	1857.5	1858.3	4.5	194	77.6		CONT,SMF
	2695	SGMR	3	S	1857.5	1858.8	5.5	73.8	29.5		CONT,SMF
	1420	BOUL	45	C	1857.5E	1858.5	2.5D	27	9		
	2695	BOUL	45	C	1858 E	1859.5	3.5D	81	27		
	2800	OTTA	29	PBI	1901	1901	28	4.8	2.4		
	2800	OTTA	26A	FAL	2000	2120	80	-10.4	-5.2		
	2800	OTTA	1	S	2109	2109.5	1	6.8	2.3		
	4995	BOUL	8	S	2223	2224	2	30	10		
	2695	PENT	1	S	2224	2225	2	4.2	1.4		
23	5730	IRKU	20	GRF	0324	0327.2	7	32	13		R
	113	POTS	42	SER	0700.9	0709.5	8.6	350	1		
	202	IZMI	41	F	0705.5	0706.8	2.2	260			
	200	GORK	4	SF	0706.2	0706.5	1.1	20 D			
	100	GORK	45	C	0706.3	0706.4	1.6	200			
	100	GORK			0706.3	0706.8		200 D			
	100	GORK			0706.3	0707.2		200 D			
	650	GORK	4	SF	0706.4	0707	1.1	115	17.5		
	2950	GORK	1	S	0706.4	0706.8	1.4	7.8	3.9		
	950	GORK	1	S	0706.7	0707	1.5	3.3			
	6100	KISV	4	S/F	0723	0730.7	12	4			
	260	ONDR	44	NS	0800 E		412 D	24			
	200	GORK	43	NS	0827		246 E		5		
	127	TORN	43	NS	0950 U	1200.1	320 D	60	4		V1
	100	GORK	43	NS	0956		157 E		5		
	410	SGMR	44	NS	1133 E	1314.1	648	26			S
	245	SGMR	44	NS	1133 E	1722.2	648	144			S
	9100	GORK	1	S	0805.6	0806	3	4	2		
	9100	GORK	1	S	0829.3	0930.5	4.2	6	3		
	9500	BERL	20	GRF	0829	0830.5	21	6.5			
	6100	KISV	28	PRE	0915		13	3			
	1470	BERL	20	GRF	0925	0948	32	2.8			
	6100	KISV	21	GRF	0928.5	0932	12	4			
	15000	KISV	3	S	0928	0928.5	5	5			
	9100	GORK	20	GRF	0929	0932	33.8	8.5	4		
	9500	BERL	20	GRF	0929	0932.5	32	10			
	3000	BERL	20	GRF	0930	0945.5	32	6			
	9100	GORK	1	S	1038.1	1038.8	1.6	4.5	2		
	6100	KISV	3	S	1057	1101	6	2			
	9100	GORK	20	GRF	1058.5	1101.5	9.3	7.5	3		
	100	GORK	41	F	1119	1119.2	24	330			
	100	GORK			1119	1140.7		330			
	100	GORK			1119	1128.5		155			
	100	GORK			1119	1133.3		180			
	100	GORK			1119	1142.6		340 D			
	3100	CRIM	24	R	1128	1300		53			
	29	UPIC	42	SER	1142.3	1142.5U	116.3				
	33	UPIC	42	SER	1142.5	1314.6	118.7				
	113	POTS	4	S/F	1142.5	1142.5	.2	2800	500		
	228	HARS	45	C	1212.5	1213	1	155	55		
	7000	SAOP	1	S	1237.8	1238.8		7			0
	113	POTS	42	SER	1242.8	1314.3	32	7000	7		
	7000	SAOP	1	S	1313.4	1313.9		7			0
	113	POTS	42	SER	1422	1425	3.6	85000	1200		
	29	UPIC	42	SER	1425.7	1426.4	94.3U				
	33	UPIC	42	SER	1425.8	1545.8	94.2U				
	228	HARS	45	C	1443.8	1444	.8	145	40		
	4995	BOUL	8	S	1449.5	1451	2	32	11		
	10400	BERN	4		1449.6	1451.2	17	76			OPR
	10400	BERN	4	S/F	1449.6	1451.2	17	25	76		
	7000	SAOP	4	S/F	1450	1451.2	5.4	99			33R
	8800	ATHN	4	S/F	1450.6	1451.3	6.9	93.9	28.2		
	4995	ATHN	3	S	1450.6	1451.4	7.2	34.1	10.2		
	8800	SGMR	3	S	1450.7	1451	2.3	101	20.2		SMF
	15400	SGMR	3	S	1450.7	1451	1.8	78.8	15.8		SMF
	4995	SGMR	3	S	1450.8	1452	2.7	43.8	8.8		SMF
	10715	DWIN	3	S	1451	1452	2	60	20		
	2800	OTTA	26	FAL	1900	1920	20	-2.6	-1.3		
	2800	OTTA	20	GRF	1935	1943	15	3.8	1.9		
	2800	OTTA	20	GRF	2033	2037	12	2.8	1.4		
24	3100	CRIM	20	GRF	0728	0904	145	21	7		
	260	ONDR	44	NS	0750 E		430 D	17			
	200	GORK	41	F	0753.8	0754.7	3.7	24			
	200	GORK			0753.8	0756.4		24			
	100	GORK	8	S	0754.3	0754.6	.8	320 D			
	113	POTS	41	F	0754.5	0754.6	1.8	700	25		
	2950	GORK	1	S	0947	0948.3	6.9	10	5		
	6100	KISV	2	S/F	0947	0948	6	3			
	9100	GORK	21	GRF	1017.5	1040.1	30.5	7	3		
	6100	KISV	45	C	1027	1033	8	2			
	6100	KISV			1027	1029		2			
	202	IZMI	4	S/F	1032.5	1032.5	1	385	160		
	228	HARS	45	C	1032.5	1032.8	.6	135	45		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	260	ONDR	4 S/F	1032	1032.3	1.5	162	15		
	3000	BERL	20 GRF	1234	1239.5	15	8			
	9500	BERL	20 GRF	1234	1241	26	8			
	536	ONDR	2 S/F	1302.7	1303.7	1	13			
	3000	BERL	20 GRF	1334	1342.5	25	5			
	1470	BERL	20 GRF	1338	1340.5	5	1.5			
	536	ONDR	4 S/F	1339	1340.6	2.5	29			
	10400	BERN	3 S	1351.3	1351.6	10	4	13		
	10400	BERN	3	1351.3	1351.6	10	13			OPR
	9500	BERL	29 PBI	1351.5	1351.6	14	12			
	8400	BERN	3	1546.6	1547.7	3	21			
	10400	BERN	3 S	1546.6	1547.6	3	6	19		
	8400	BERN	3 S	1546.6	1547.6	3	7	21		
	10400	BERN	3	1546.6	1547.7	3	19			
	10715	DWIN	1 S	1547	1548	2	10	5		
	9400	HUAN	S	2112.5	2113.6	2.5	15.6	8.6		L
	2800	OTTA	1 S	2139.2	2140	1	2.6	1.3		
	200	HIRA	43 NS	2330	0010	210 D	50	20		ML
25	100	HIRA	44 NS	0023 E	0030 U	247 D	250	60		ML
	2695	MANI	4 S/F	0640.4	0655.2	21.6	63.2	42.1		
	950	GORK	46 C	0640.7	0642.3	59.7	15			
	950	GORK		0640.7	0717.2		50			
	950	GORK		0640.7	0656.5		34			
	100	GORK		0640.9	0651.5		1170			
	100	GORK		0640.9	0658		2900			
	100	GORK		0640.9	0644.7		230			
	100	GORK	41 F	0640.9	0641.2	26	250			
	100	GORK		0640.9	0649.4		1200			
	100	GORK		0640.9	0643		250 D			
	6100	KISV	20 GRF	0640	0656	25	16			
	650	GORK	21 GRF	0641	0656.5	18	22	11		
	200	GORK		0641	0656.7		40			
	200	GORK	41 F	0641	0651.4	67	65			
	3100	CRIM	45 C	0641	0655	46	54			
	3100	CRIM	29 PBI	0641	0727	29	20			
	3100	CRIM		0641	0719		84			
	200	GORK		0641	0723.8		35			
	606	MANI	4 S/F	0641	0651	19.8	19.7	13.1		
	1415	MANI	4 S/F	0641	0624.8	21	56.6	37.7		
	200	GORK		0641	0718.4		20			
	100	HIRA	41 F	0641	0700	20	1300	50		D
	200	HIRA	46 C	0642	0649	20	20	10		MR
	9100	GORK	21 GRF	0646.2	0655.5	204	24.5	11		
	1415	ATHN	2 GRF	0649.2	0656.5	14.8	42.6	25.6		
	2695	ATHN	2 GRF	0649.2	0654.1	14.8	45.2	27.1		
	4995	ATHN	2 GRF	0649.2	0654.1	15	25.3	15.2		
	2950	GORK	1 S	0649.8	0651.1	8.1	7	3		
	8800	ATHN	2 GRF	0650.2	0654.1	13.3	9.8	5.9		
	650	GORK	3 S	0651.1	0651.4	.8	15	4		
	113	POTS	48 C	0651	0655	74	4600			
	650	GORK	20 GRF	0708.1	0719.1	35.2	16	6		
	202	IZMI	27 RP	0710	0721	25	26	16		
	2695	MANI	4 S/F	0711	0719	18.2	110.6	73.7		
	1415	MANI	4 S/F	0711.3	0717.6	17.7	54.5	36.4		
	200	HIRA	46 C	0712	0724	30	35	15		MR
	100	GORK		0713.3	0721		940			
	100	GORK	46 C	0713.3	0719.5	10	250 D			
	1415	ATHN	2 GRF	0713.6	0718.9	18.4	45.9	27.6		
	606	MANI	4 S/F	0713.8	0717.2	11.9	38.1	25.4		
	100	HIRA	46 C	0713	0723	28	650	40		WL
	2695	ATHN	2 GRF	0714	0718.9	17.8	104.4	62.6		
	930	BORD	48 F	0715 E	0717.3	16 D	36			
	1470	BERL	45 C	0715	0717.5	20	48			
	3000	BERL	45 C	0715	0718.6	34	106			
	6100	KISV	2 S/F	0801	0804.8	6	3			
	3100	CRIM	21 GRF	0828	0835	16	8	3		
	6100	KISV	4 S/F	0840	0843.3	8	17			
	2950	GORK	3 S	0841.6	0843.2	2.2	27	7		
	3000	BERL	3 S	0842	0843.1	2.5	17			
	9500	BERL	3 S	0842.5	0843.1	2	25			
	3100	CRIM	1 S	0842.5	0843	1	12	4		
	9100	GORK	3 S	0842.5	0843.2	2.2	32.5	16		
	8800	ATHN	2 GRF	0842.5	0843.1	3	29.3	17.6		
	4995	ATHN	2 GRF	0842.5	0843.1	3.2	27.4	16.5		
	10400	BERN	3 S	0842.6	0843.1	5	11	31		
	8400	BERN	3 S	0842.6	0843.1	5	10	26		
	10400	BERN	3	0842.6	0843.1	5	31			OPR
	8400	BERN	3	0842.6	0843.1	5	26			OPR
	15000	KISV	2 S/F	0842	0843	2	19			
	10715	DWIN	1 S	0843	0843.5	2	20	10		
	9100	GORK	1 S	0951.7	0951.9	.6	7	3.5		
	260	ONDR	8 S	0952.8	0952.8	.3	24			
	113	POTS	41 F	1115.8	1115.9	.3	100	10		
	7000	SADP	3 S	1158	1159.8	13	26.5			38R

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
FEBRUARY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	3000	BERL	1 S	1159	1200	2	4.9			
	9500	BERL	3 S	1159.5	1159.9	1.5	13			
	228	HARS	45 C	1322.5	1323.5	2	120	40		
	234	POTS	41 F	1322.7	1323.6	1.3	3600	50		
	260	ONDR	46 C	1322	1323.3	3.5	219 D	12		
	808	ONDR	8 S	1352.7	1352.7	.3	70			
	2800	OTTA	8 S	1428	1428.3	.5	2.2	1.1		
	10715	OWIN	1 S	1437	1437.5	1	15	10		
	10400	BERN	3	1441.4	1442.1	3	27			OPR
	10400	BERN	3 S	1441.4	1442.1	3	9	27		
	7800	SAOP	4 S/F	1441.5	1442.2	1	15			O
	9400	HUAN	S	1441.5	1442	1.6	26	14.3		R
	2800	OTTA	1 S	1500.5	1501.2	1.5	1	.5		
	2800	OTTA	8 S	1509.8	1509.9	.2	2.4	1.2		
	6100	KISV	29 PBI	0000	0848	17	2			
26	200	HIRA	7 C	0517.5	0517.8	.8	3500	1000		O
	100	HIRA	7 C	0519	0519.8	1	250	100		
	100	GORK	46 C	0726.2	0726.3	.9	60 D			
	100	GORK		0726.2	0726.8		30			
	6100	KISV	4 S/F	0750	0753	8	3			
	100	GORK	8 S	0810.2	0810.3	.5	60 D			
	3100	CRIM	20 GRF	0901	0915	24	8	3		
	260	ONDR	41 F	0919	0930.8	26	10	.8		
	100	GORK	4 SF	1115.6	1115.9	2.5	70 D			
	200	GORK	6 S	1115.8	1117.8	2.3	45			
	4995	BOUL	4 SF	1839.5	1841.5	7	41	14		
	7000	SAOP	46 C	1840	1842.1	2.4	102			O
	1420	BOUL	45 C	1840.5E	1842	3 D	12	4		
	8800	SGMR	3 S	1840.5	1841.7	4.1	113 U	33.9U		
	1415	SGMR	3 S	1840.6	1840.9	2.3	20.7U	6.2U		
	606	SGMR	3 S	1840.8	1841	3.1	14.8U	4.4U		
	2800	OTTA	4 S/F	1840.8	1842	5.2	30	12		
	15400	SGMR	3 S	1840.9	1841.7	3.7	178 U	53.4U		
	2695	SGMR	3 S	1841.1	1842.5	7	31.5U	9.5U		
	4995	SGMR	3 S	1841.4	1842	2	35.9U	10.8U		
	2695	BOUL	4 SF	1841.5E	1842.5	2.50	27	9		
	2800	OTTA	20 GRF	1900	2040	240	6.6	3.3		
27	3000	BERL	3 S	0731	0731.5	1.5	8			
	260	ONDR	41 F	0805	0825.3	34	16	1		
	200	GORK	41 F	0812	0825.7	26.5	20			
	200	GORK		0812	0828.7		17			
	221	ABST	45 C	0824.5	0825.5	2	22	9		
	260	ONDR	42 SER	0925	1045.7	95	17			
	260	ONDR	42 SER	1259	1413.8	74	8			
	2800	OTTA	20 GRF	1633	1635	19	1.6	.8		
	930	BORD	45 C	1634	1634.8	1.4	16	2		
28	2695	PENT	8 S	0031.2	0031.7	.8	12.4	6.2		
	260	ONDR	42 SER	0749	0915.6	86	28			
	9400	HUAN	S	1417.4	1418.5	1.6	8.9	5.4		R
	600	UCCL	1 S	1455.5	1455.8	1	6	3		
	9400	HUAN	S	1604.6	1605.1	1.2	14.3	6.4		L
	930	BORD	8 S	1618.3	1618.4	.2	26	2		

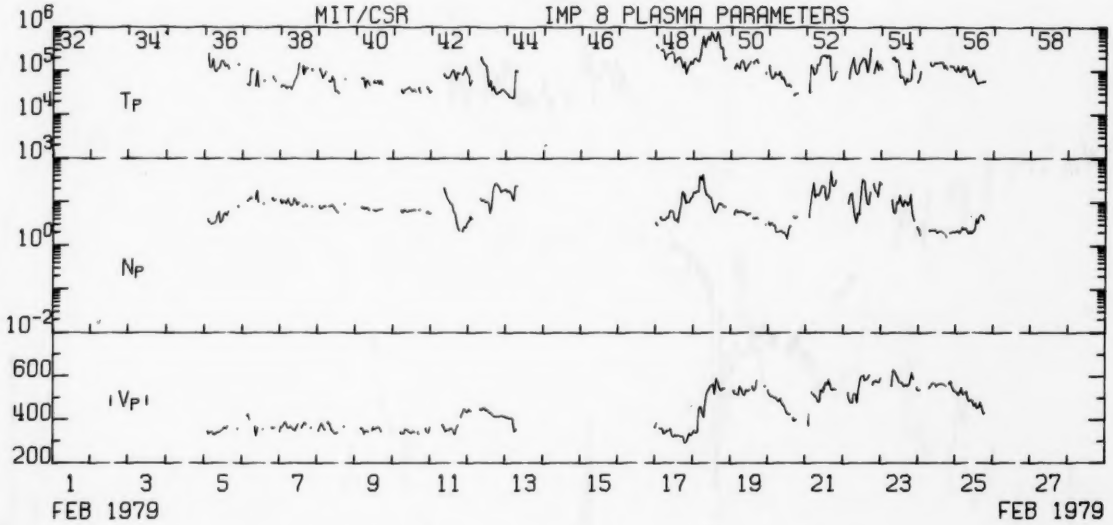
Reports received from the following observatories:

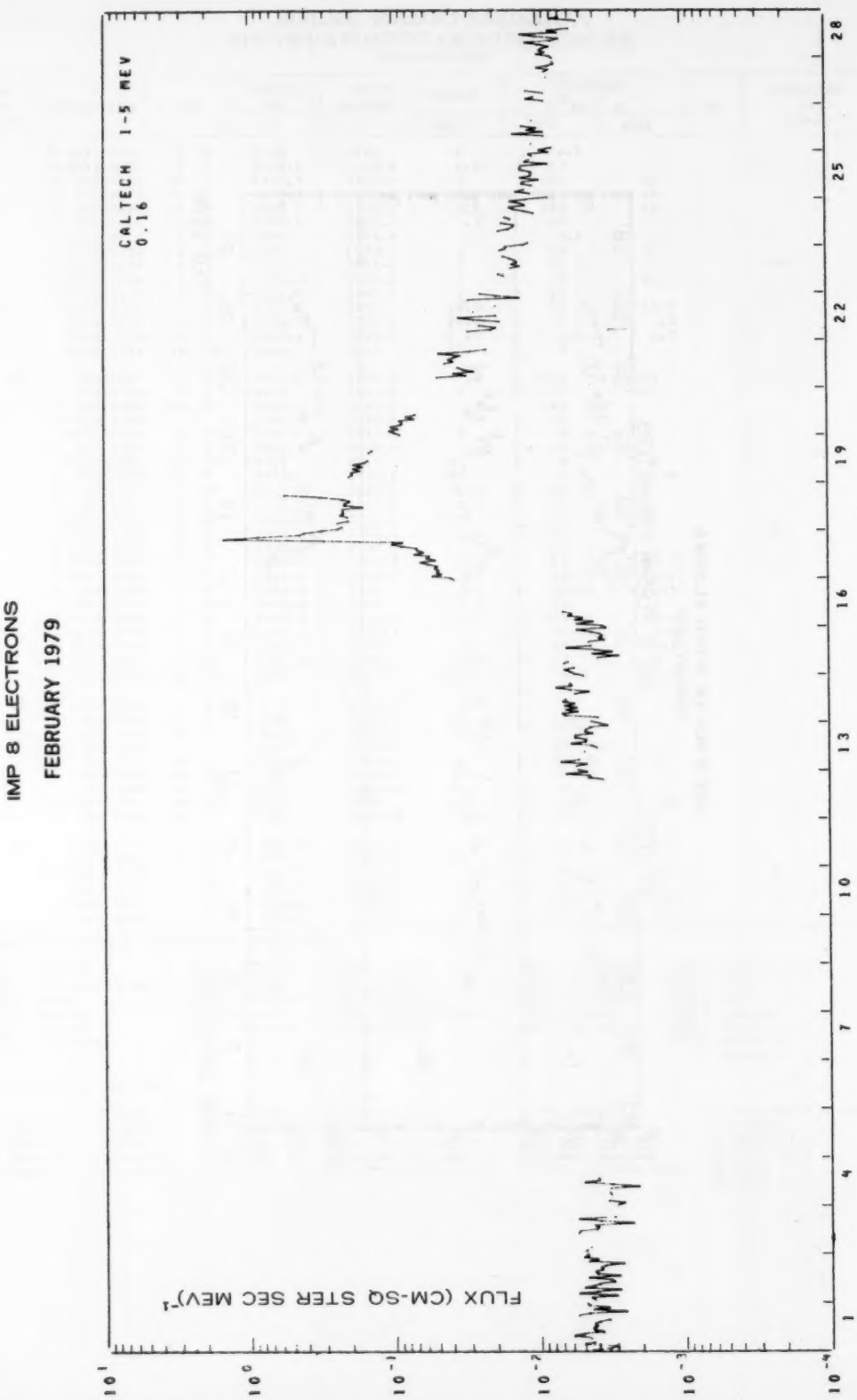
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
VORO = Voroshilov (Ussurisk)

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

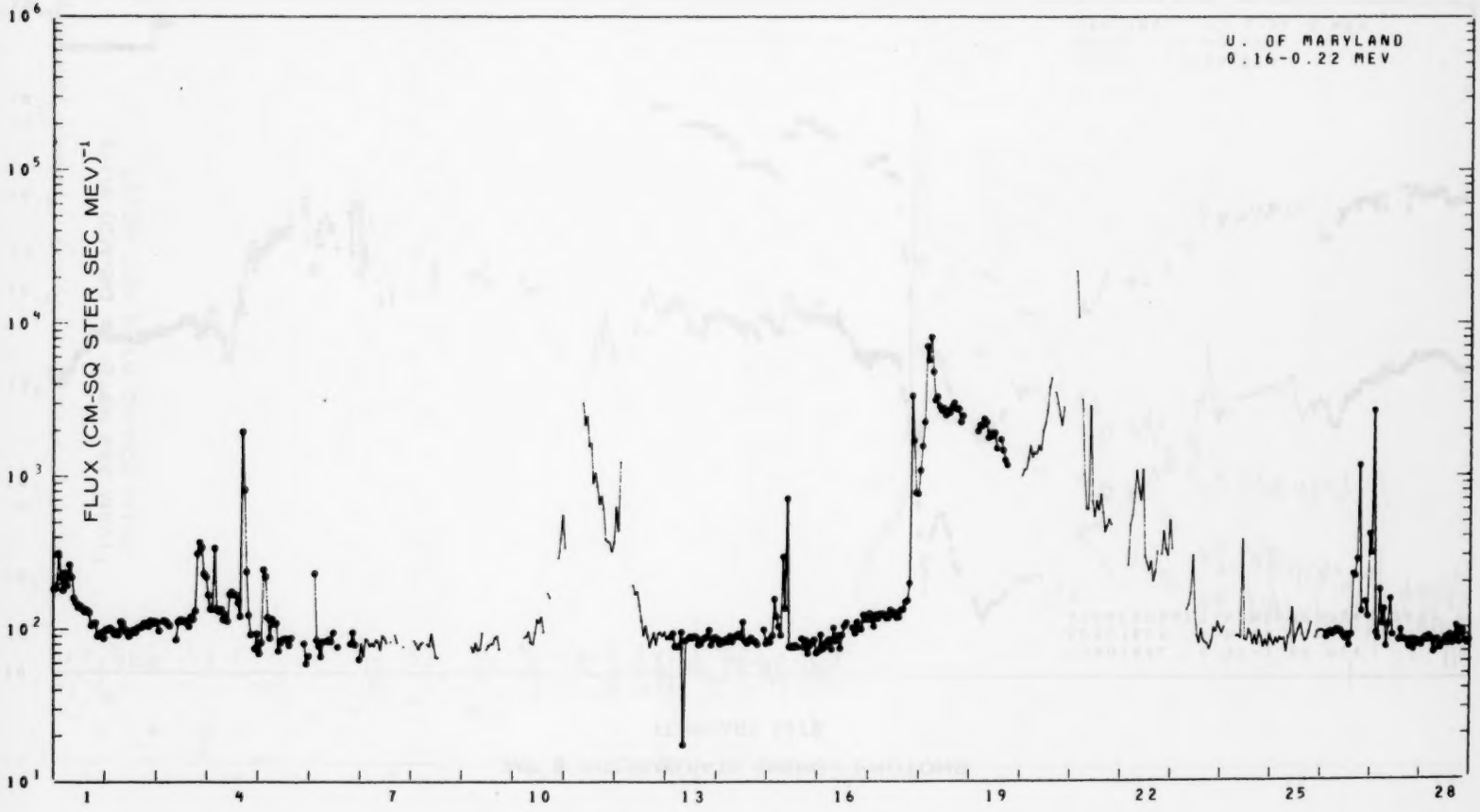
IMP 8 SOLAR WIND PLASMA
FEBRUARY 1979




IMP 8 ELECTRONS
FEBRUARY 1979
CALTECH 1-5 MEV
0.16
FLUX (CM-SQ STER SEC MEV)⁻¹
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
1
4
7
10
13
16
19
22
25
28

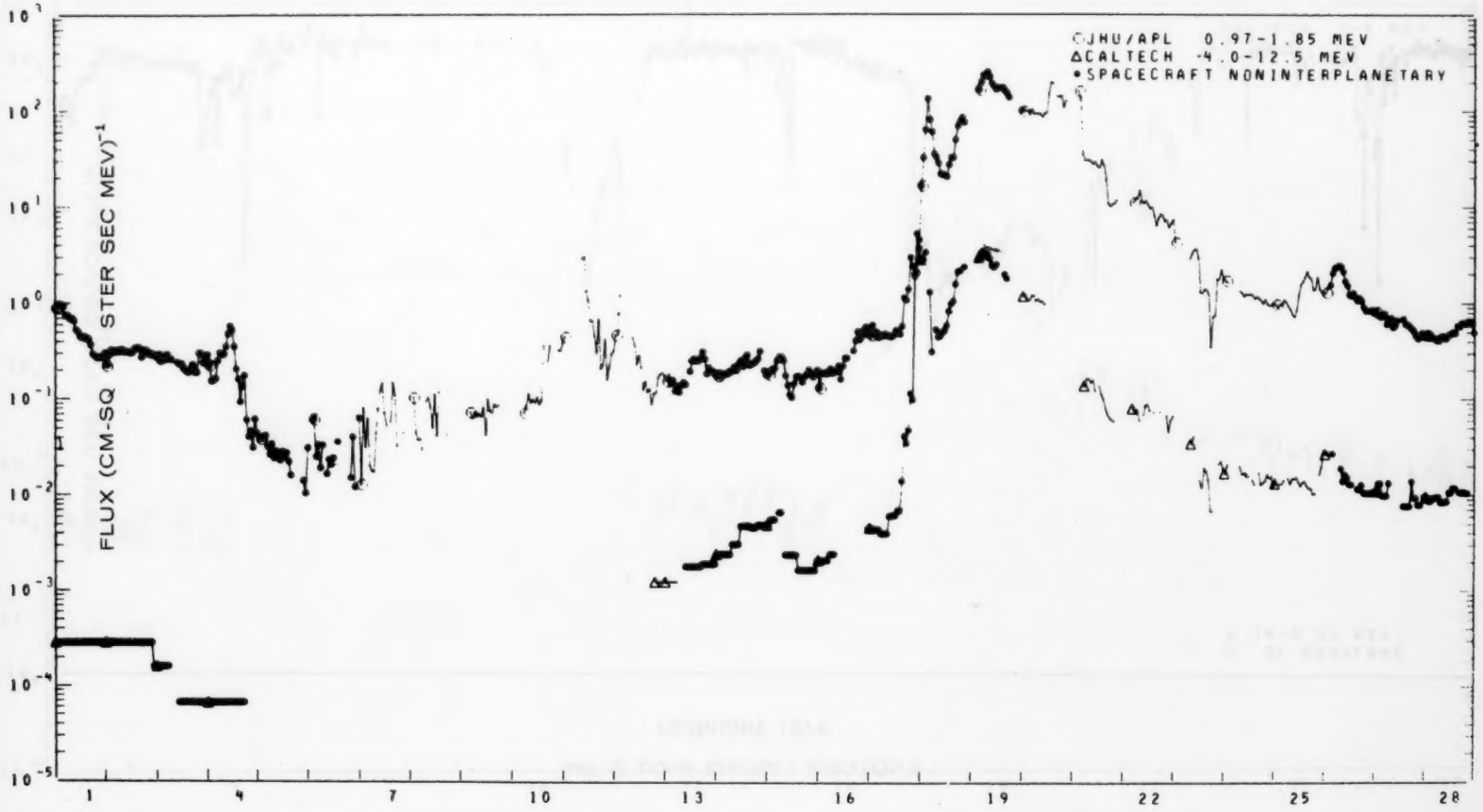
IMP 8 LOW ENERGY PROTONS

FEBRUARY 1979



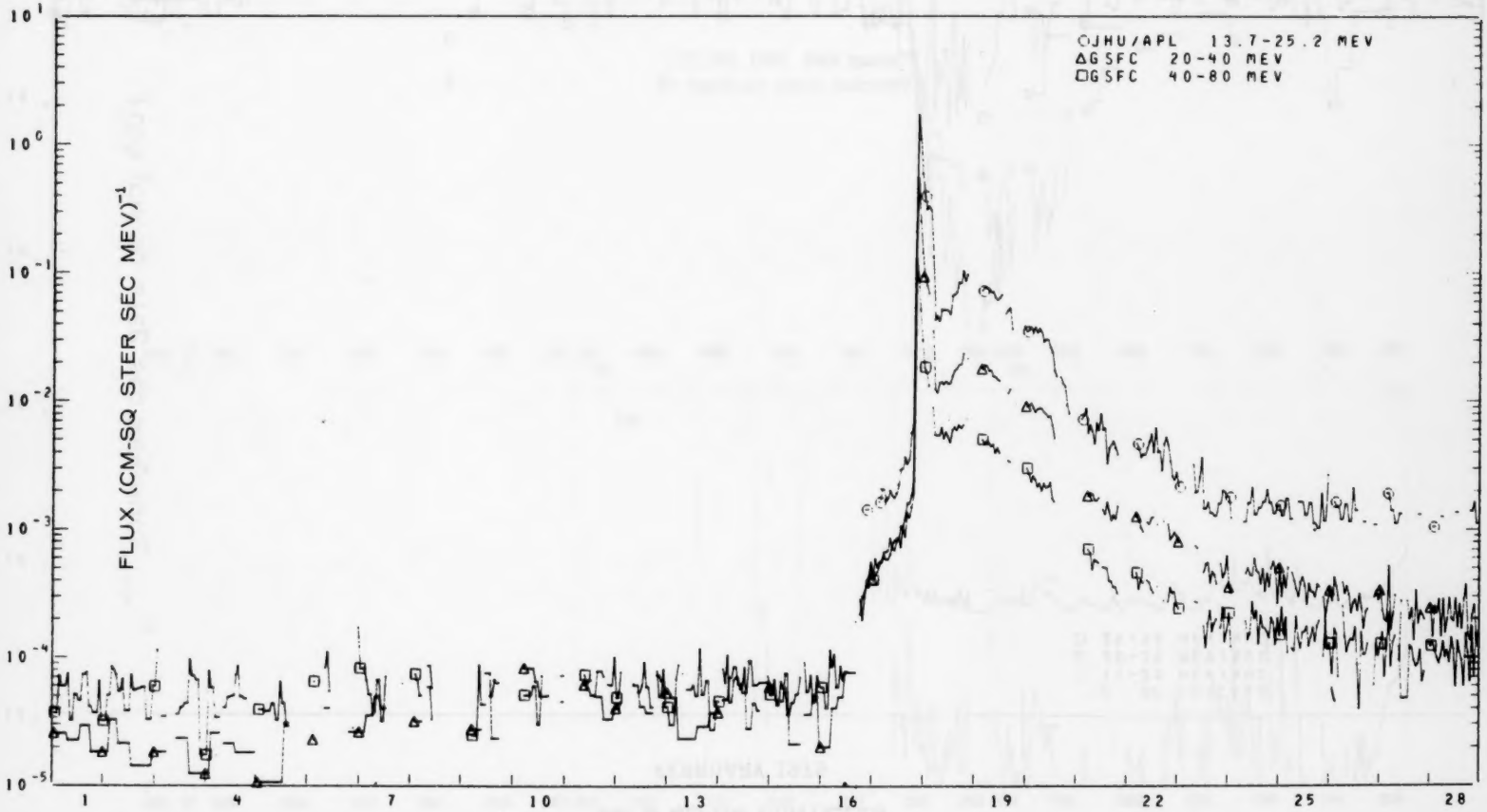
IMP 8 INTERMEDIATE ENERGY PROTONS

FEBRUARY 1979



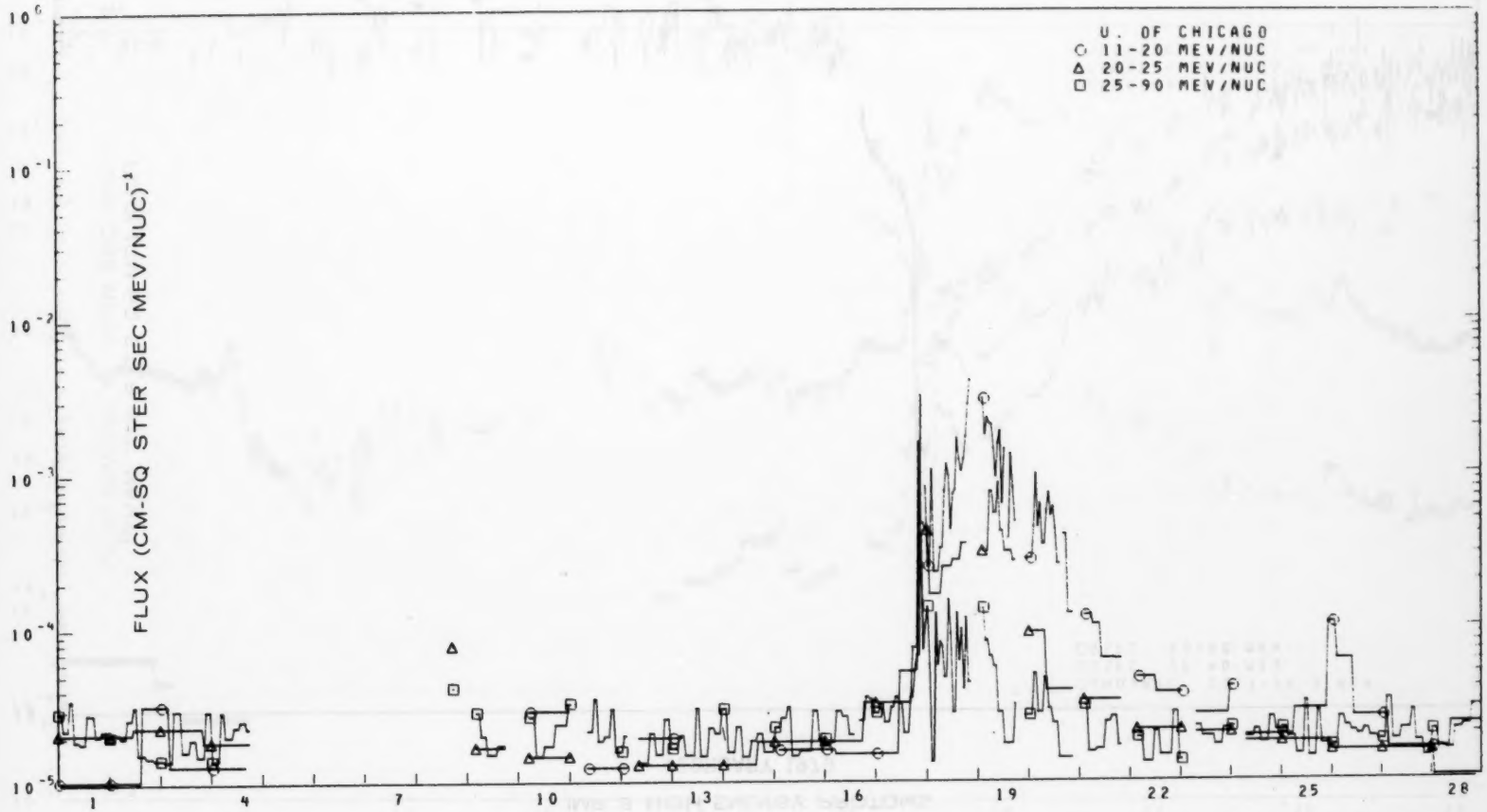
IMP 8 HIGH ENERGY PROTONS

FEBRUARY 1979



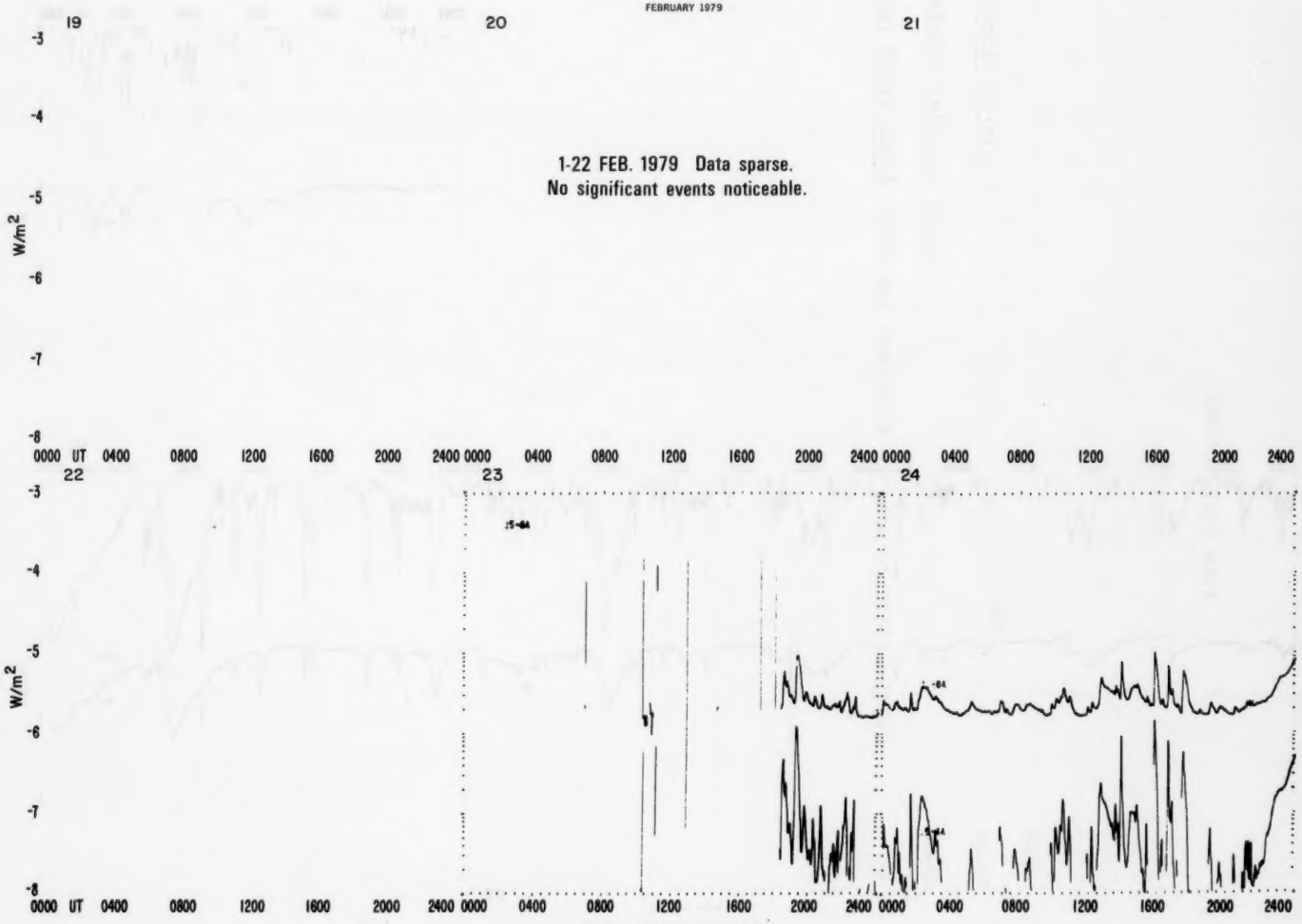
IMP 8 ALPHA PARTICLES

FEBRUARY 1979



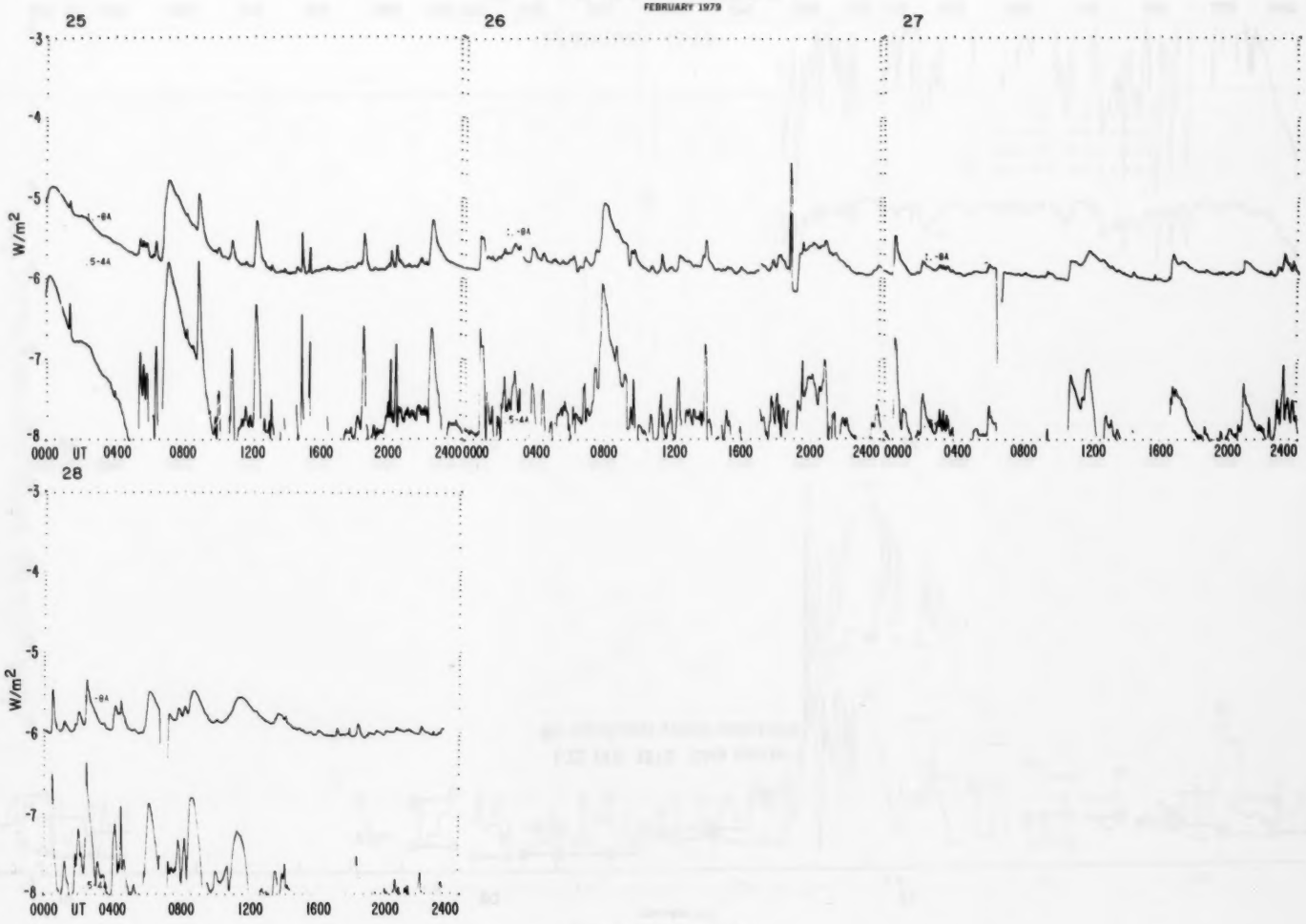
SMS-GOES X-RAYS

FEBRUARY 1979



SMS-GOES X-RAYS

FEBRUARY 1979



SGD 420 Part II (Comprehensive)

JANUARY 1979 DATA

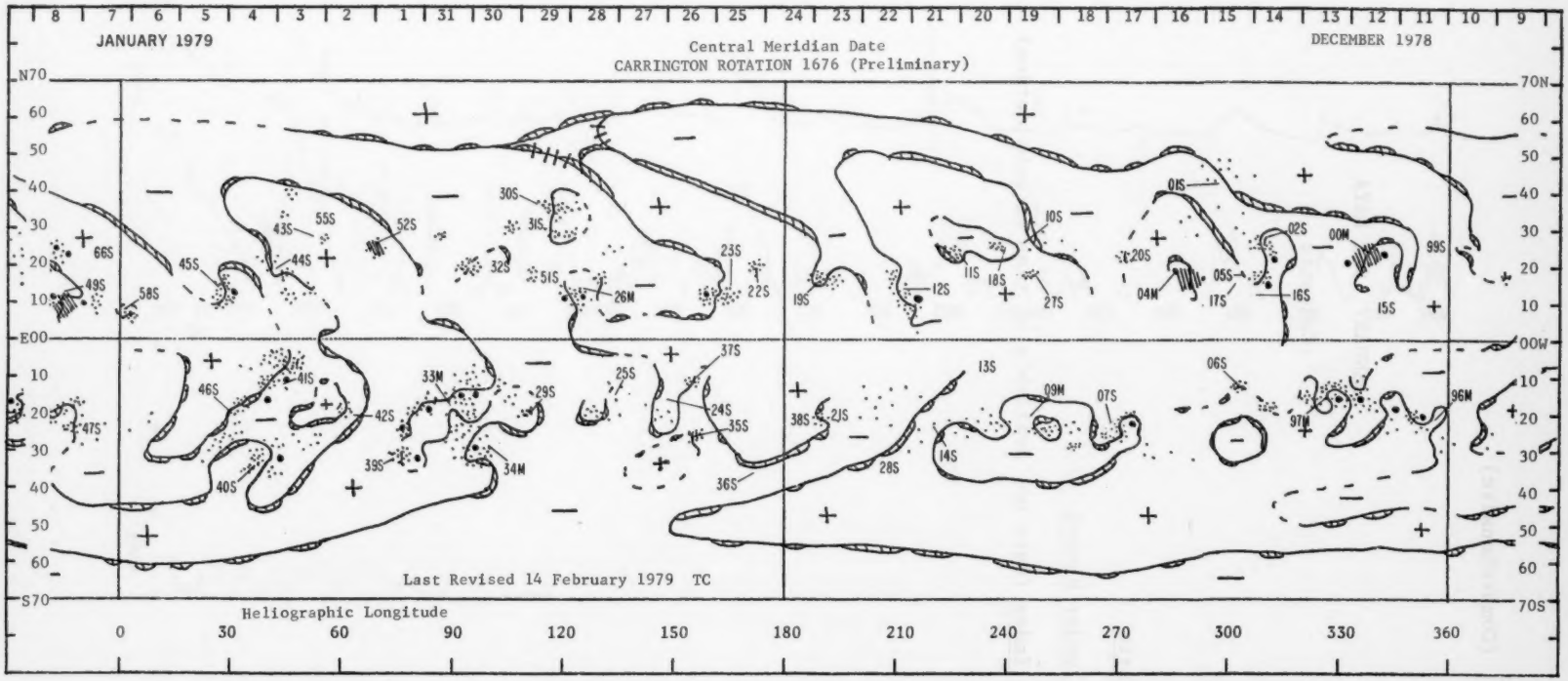
Contents

	Page
Hα Synoptic Charts	56-57
Abbreviated Calendar Record	58-65
Regional Flare Index (Data not available at time of publication)	

ABBREVIATED CALENDAR RECORD

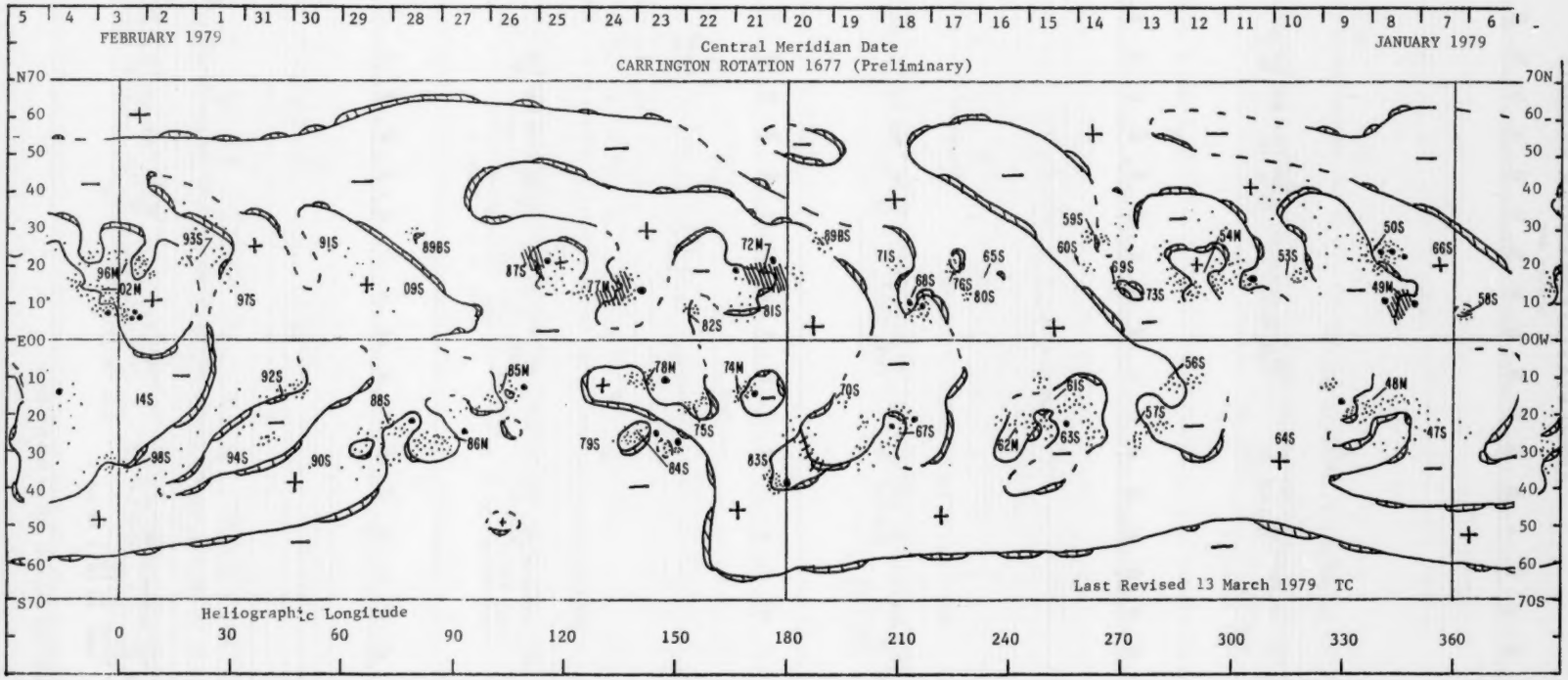
Hα SYNOPTIC CHART

DECEMBER 1978- JANUARY 1979



ABBREVIATED CALENDAR RECORD

Hα SYNOPTIC CHART



ABBREVIATED CALENDAR RECORD

JANUARY 1979

Jan. 1, 1979

FLARES: 1f/39

Bursts: cm; dm; m: noise storm; Dkm

SID

X-Rays

Ap 1007A — Kp: 2o | 3o | 2- | 2- | 2+ | 1o | 1o | 4o

Aurora — USSR: φ = 54° 1500-1600 (HP1); φ = 49° 1700-2200 (HV1); W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE-; SE- moderately bright; W. Limb 7 days later: NW- no data; SW- no data

Indices — Rz: 158; 10 cm flux: 201; Flare: 90/22.6; Ca: no data; Ip: 0; Ia: 1

Solar Regions — 15739 S33; (15752) N25

Sunspots — 20377 S32 (βp) 4; N26

Jan. 2, 1979

FLARES

Bursts: cm; dm; m: noise storm; Dkm

SID

X-Rays

Ap 19 — Kp: 3- | 1+ | 2- | 3+ | 3+ | 4- | 5- | 4+

Aurora — USSR: φ = 58° 0200 (HB1); φ = 49° 1900-2300 (HA2); φ = 57° 2400 (HB1); W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- moderately bright; SE moderately bright; W. Limb 7 days later: NW- no data; SW- no data

Indices — Rz: 158; 10 cm flux: 207; Flare: 93/20.5; Ca: 59.8; Ip: 0; Ia: 2

Solar Regions — (15742) S20

Sunspots — (20385) S20 β 3

Jan. 3, 1979

FLARES: 1f/46; 1b/50

Bursts: cm; dm; m: noise storm; Dkm

SID

X-Rays

Ap 19 — Kp: 4o | 4- | 2+ | 3+ | 3o | 3o | 4o | 3+

Aurora — USSR: φ = 59° 0300 (SB2), 0400-0700 (HA1), 1400-1600 (SB1) and 1700-1800 (R_1B2); φ = 58° 2000-2300 ($R_{1-2}R1$) and 2300-2400 (HB1); W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- moderately bright; SE- moderately bright; W. Limb 7 days later: NW- no data; SW- no data

Indices — Rz: 191; 10 cm flux: 210; Flare: 126/22.5; Ca: 63.9; Ip: 0; Ia: 3

Solar Regions — (15755) N26; 15743 N29; 15741 S13

Sunspots — (20389) N25 (αp) 2 CMP Jan. 2; 20380 S12 (βf) 4; (20381) S19 (αp) 3 CMP Jan. 4

Jan. 4, 1979

FLARES

Bursts: cm; dm; m: noise storm; Dkm

SID

X-Rays

Ap 4501 — Kp: 4+ | 5o | 5- | 4- | 5- | 5+ | 6- | 5+; sc: 1725(9)

Aurora — USSR: φ = 58° 0000-0300 (HB1); 0100 (HA1), 0100-0300 (HP1) and 1700-2000 (HA2); φ = 59° 0400 (HP1) and 1400-1500 (HB2); φ = 57° 1600-1700 (see Remarks); W.E.

Cosmic Rays

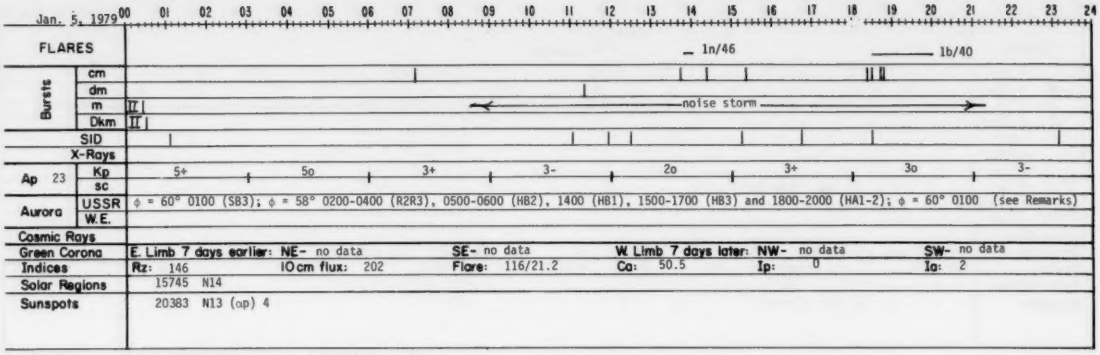
Green Corona — E. Limb 7 days earlier: NE- no data; SE no data; W. Limb 7 days later: NW- no data; SW- no data

Indices — Rz: 157; 10 cm flux: 199; Flare: 49/21.4; Ca: 59.0; Ip: 0; Ia: 5

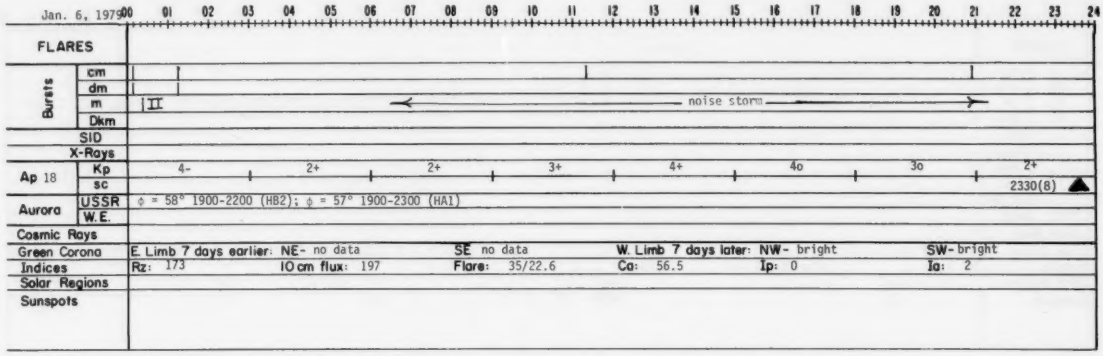
Solar Regions — 15744 N19 (5); 15740 S35; 15746 S21 (2)

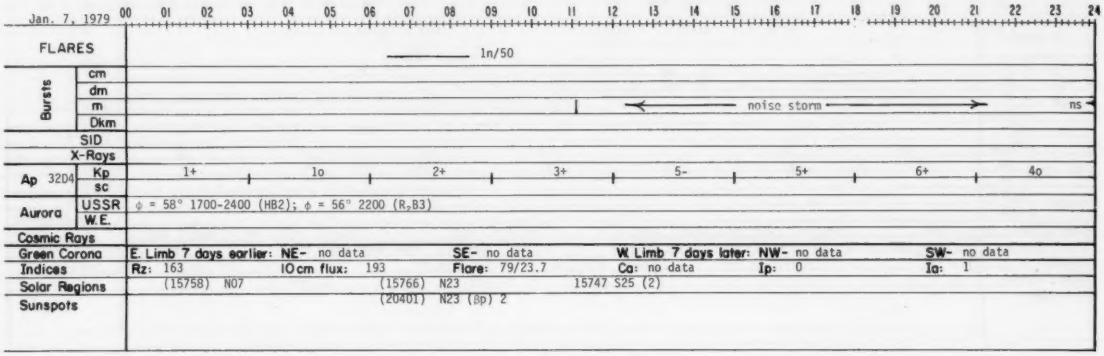
Sunspots — (20379) N17 (αp) 2; 20382 S35 (β) 4; S20; 20388 N16 (βf) 4 CMP Jan. 3

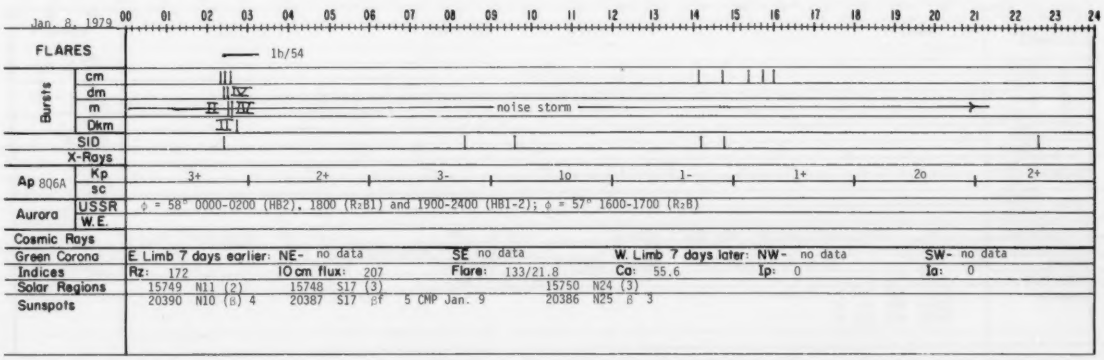
Remarks: Aurora USSR continued: (SA1 and 1900-2400 (HA1-2)

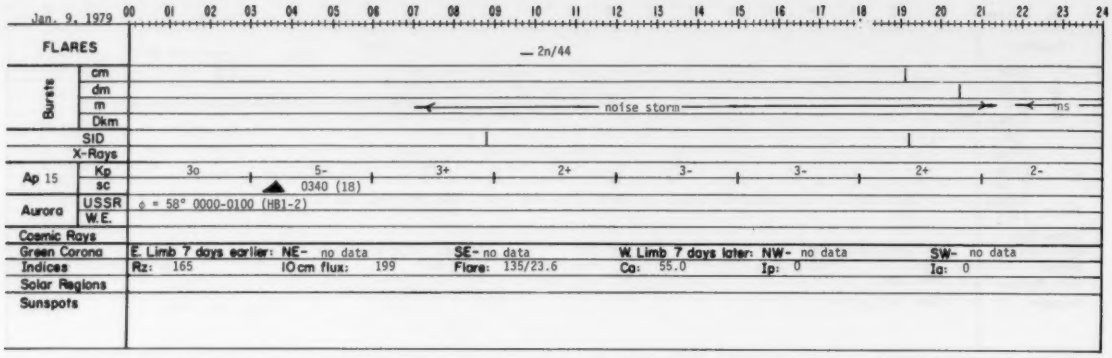


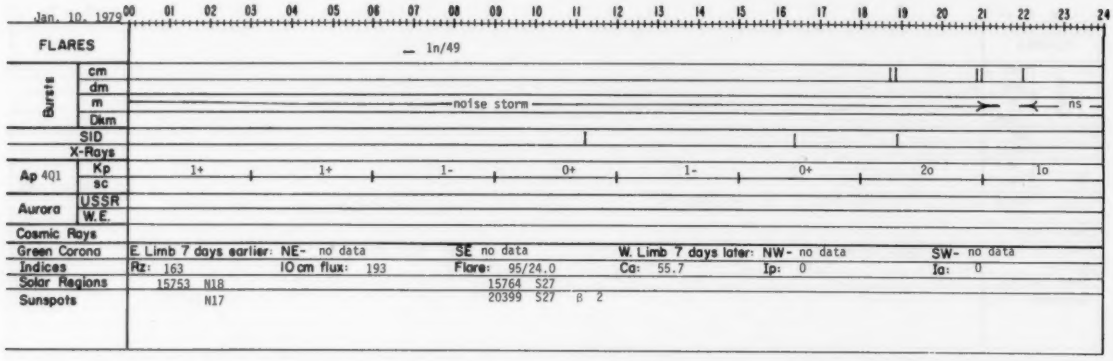
Remarks: Aurora USSR continued: and 2100-2400 (R_2R3)

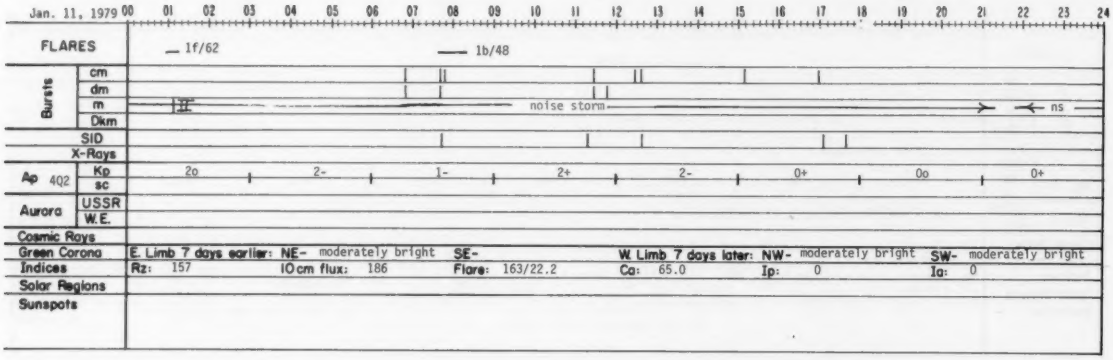


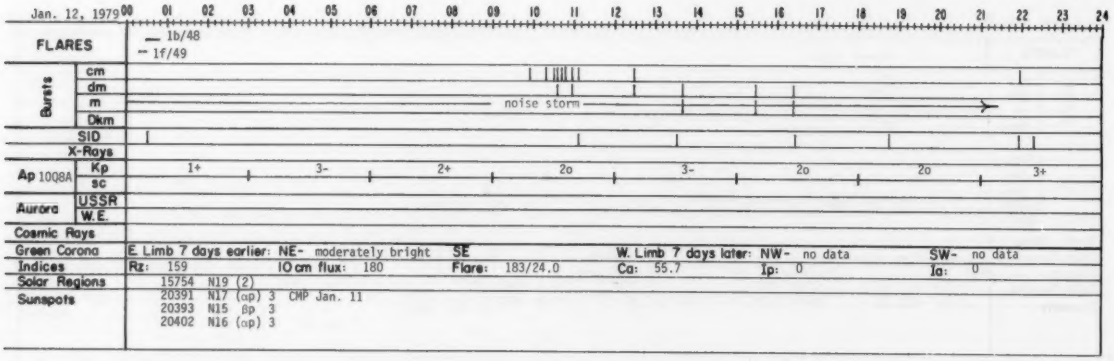


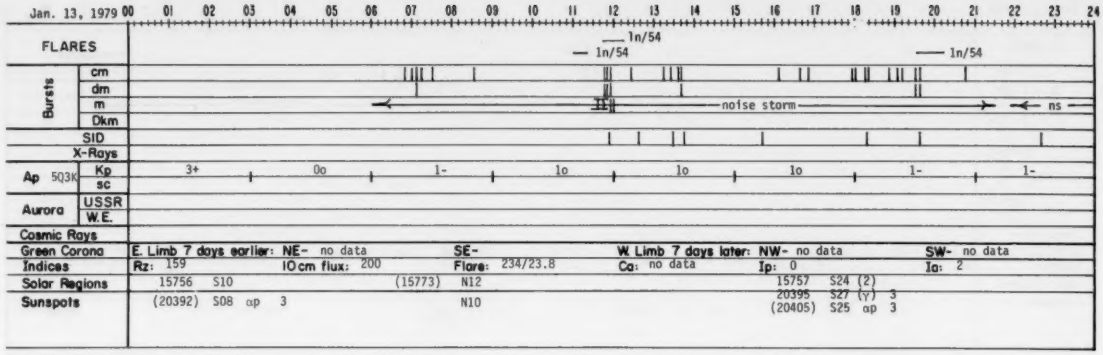


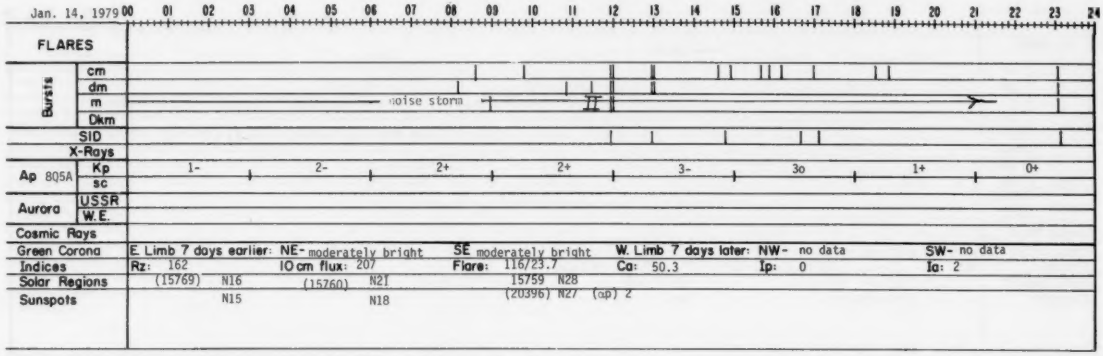

Jan. 9, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
2n/44
Bursts
cm
dm
m
Dkm
noise storm
ns
SID
X-Rays
Ap 15
Kp
sc
3o 5- 3+ 2+ 3- 3- 2+ 2-
0340 (18)
Aurora
USSR
W.E.
φ = 58° 0000-0100 (HB1-2)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE- no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 165
10cm flux: 199
Flare: 135/23.6
Ca: 55.0
Ip: 0
Ia: 0
Solar Regions
Sunspots

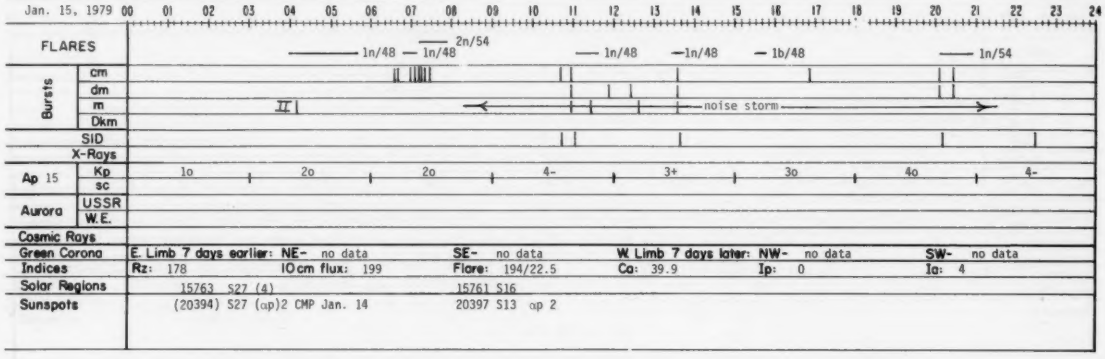

Jan. 10, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/49
Bursts
cm
dm
m
Dkm
noise storm
ns
SID
X-Rays
Ap 401
Kp
sc
1+ 1+ 1- 0+ 1- 0+ 2o 1o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 163
10cm flux: 193
Flare: 95/24.0
Ca: 55.7
Ip: 0
Ia: 0
Solar Regions
15753 N18
15764 S27
Sunspots
N17
20399 S27 B 2

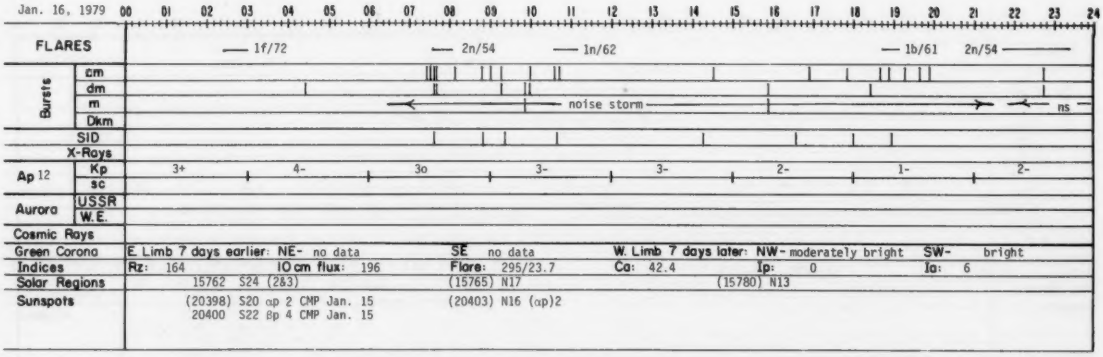

Jan. 11, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/62
1b/48
Bursts
cm
dm
m
Dkm
noise storm
ns
SID
X-Rays
Ap 402
Kp
sc
2o 2- 1- 2+ 2- 0+ 0o 0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright
SE-
W. Limb 7 days later: NW- moderately bright
SW- moderately bright
Indices
Rz: 157
10cm flux: 186
Flare: 163/22.2
Ca: 65.0
Ip: 0
Ia: 0
Solar Regions
Sunspots

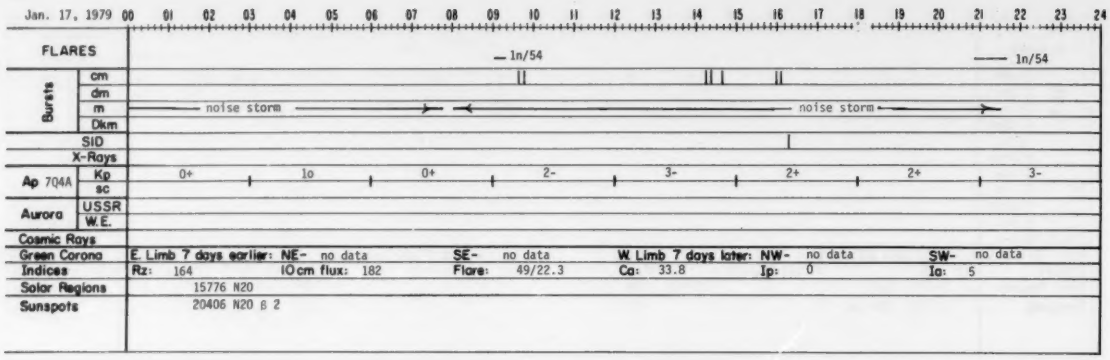

Jan. 12, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/48
1f/49
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 1008A
Kp
sc
1+ 3- 2+ 2o 3- 2o 2o 3+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright
SE
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 159
10cm flux: 180
Flare: 183/24.0
Ca: 55.7
Ip: 0
Ia: 0
Solar Regions
15754 N19 (2)
Sunspots
20391 N17 (αp) 3 CMP Jan. 11
20393 N15 βp 3
20402 N16 (αp) 3

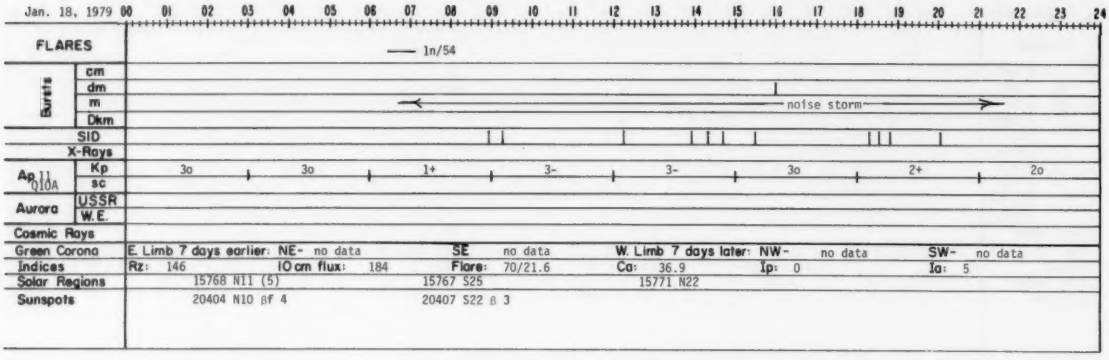

Jan. 13, 1979
FLARES
1n/54
1n/54
1n/54
Bursts
cm
dm
m
noise storm
ns
Dkm
SID
X-Rays
Ap 5Q3K
Kp
3+
0o
1-
1o
1o
1o
1-
1-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE-
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 159
10cm flux: 200
Flare: 234/23.8
Ca: no data
Ip: 0
Ia: 2
Solar Regions
15756 S10
(15773) N12
15757 S24 (2)
20395 S27 (γ) 3
Sunspots
(20392) S08 αp 3
N10
(20405) S25 αp 3

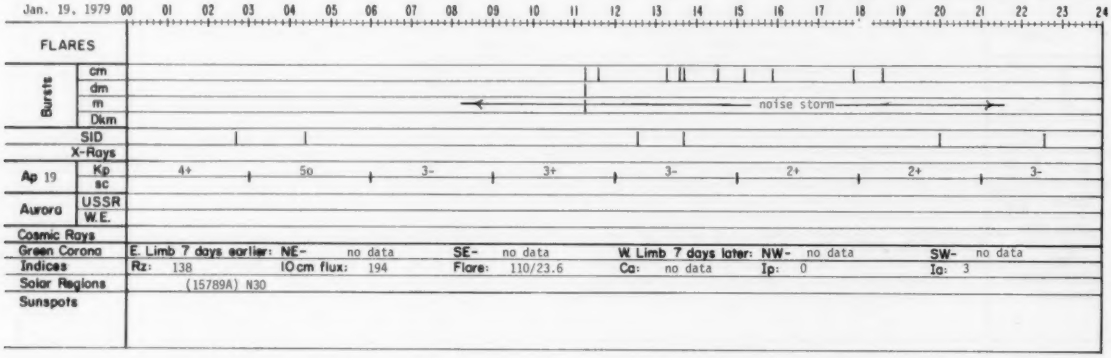

Jan. 14, 1979
FLARES
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 8Q5A
Kp
1-
2-
2+
2+
3-
3o
1+
0+
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright
SE moderately bright
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 162
10cm flux: 207
Flare: 116/23.7
Ca: 50.3
Ip: 0
Ia: 2
Solar Regions
(15769) N16
(15760) N21
15759 N28
Sunspots
N15
N18
(20396) N27 (αp) 2

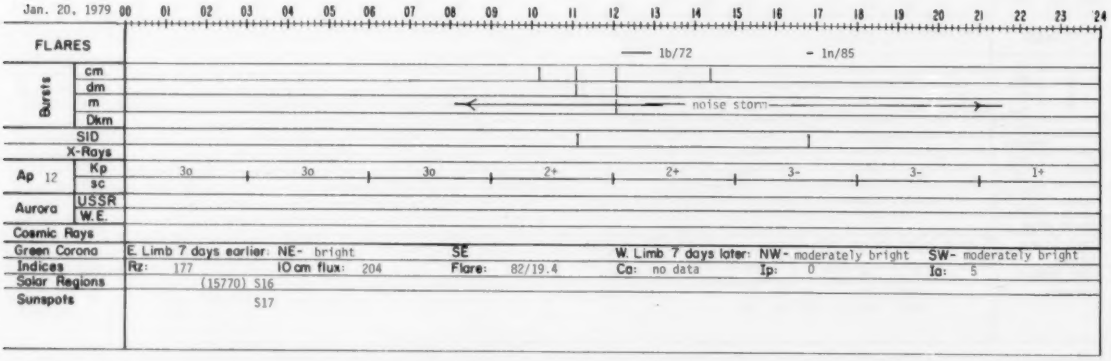

Jan. 15, 1979
FLARES
1n/48
1n/48
2n/54
1n/48
1n/48
1b/48
1n/54
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 15
Kp
1o
2o
2o
4-
3+
3o
4o
4-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE- no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 178
10cm flux: 199
Flare: 194/22.5
Ca: 39.9
Ip: 0
Ia: 4
Solar Regions
15763 S27 (4)
15761 S16
Sunspots
(20394) S27 (αp)2 CMP Jan. 14
20397 S13 αp 2

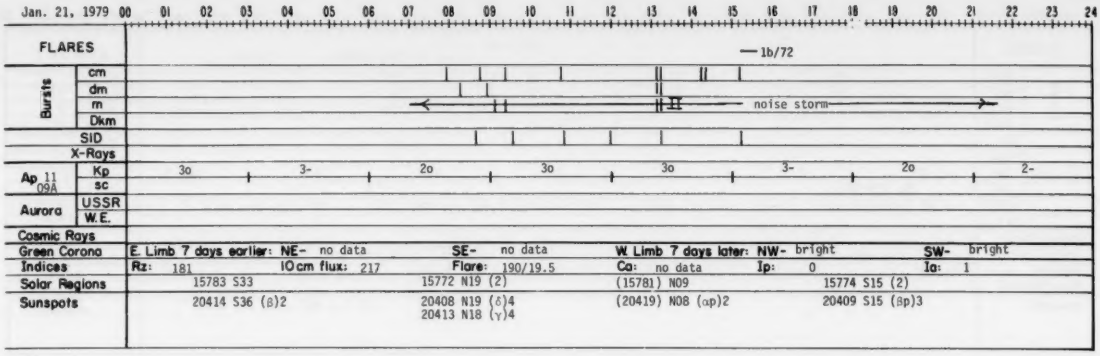

Jan. 16, 1979
FLARES
1f/72
2n/54
1n/62
1b/61
2n/54
Bursts
cm
dm
m
noise storm
ns
Dkm
SID
X-Rays
Ap 12
Kp
3+
4-
3o
3-
3-
2-
1-
2-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE no data
W. Limb 7 days later: NW- moderately bright
SW- bright
Indices
Rz: 164
10cm flux: 196
Flare: 295/23.7
Ca: 42.4
Ip: 0
Ia: 6
Solar Regions
15762 S24 (2&3)
(15765) N17
(15780) N13
Sunspots
(20398) S20 αp 2 CMP Jan. 15
20400 S22 βp 4 CMP Jan. 15
(20403) N16 (αp)2

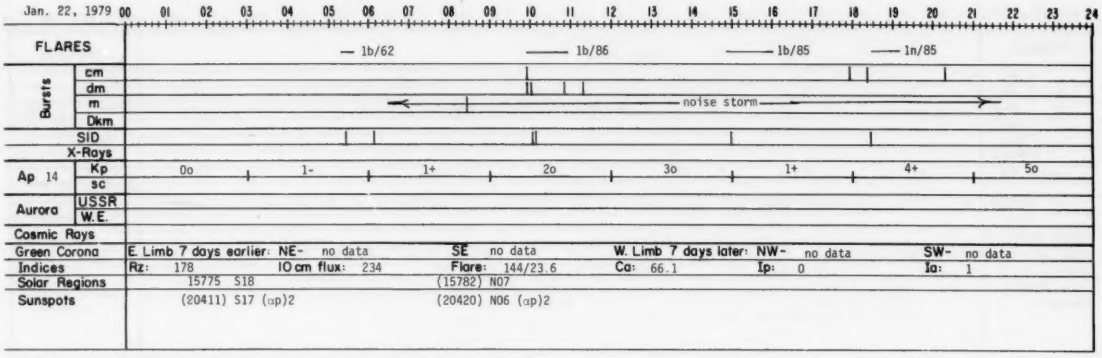

Jan. 17, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/54
1n/54
Bursts
cm
dm
m
noise storm
noise storm
Dkm
SID
X-Rays
Ap 704A
Kp
0+ 1o 0+ 2- 3- 2+ 2+ 3-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 164 10cm flux: 182 Flare: 49/22.3 Ca: 33.8 Ip: 0 Ia: 5
Solar Regions
15776 N20
Sunspots
20406 N20 β 2

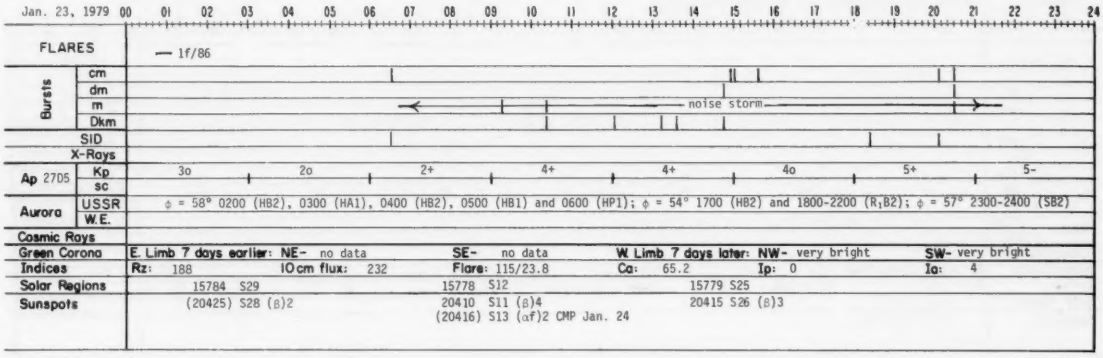

Jan. 18, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/54
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 11 010A
Kp
3o 3o 1+ 3- 3- 3o 2+ 2o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 146 10cm flux: 184 Flare: 70/21.6 Ca: 36.9 Ip: 0 Ia: 5
Solar Regions
15768 N11 (5) 15767 S25 15771 N22
Sunspots
20404 N10 βf 4 20407 S22 β 3

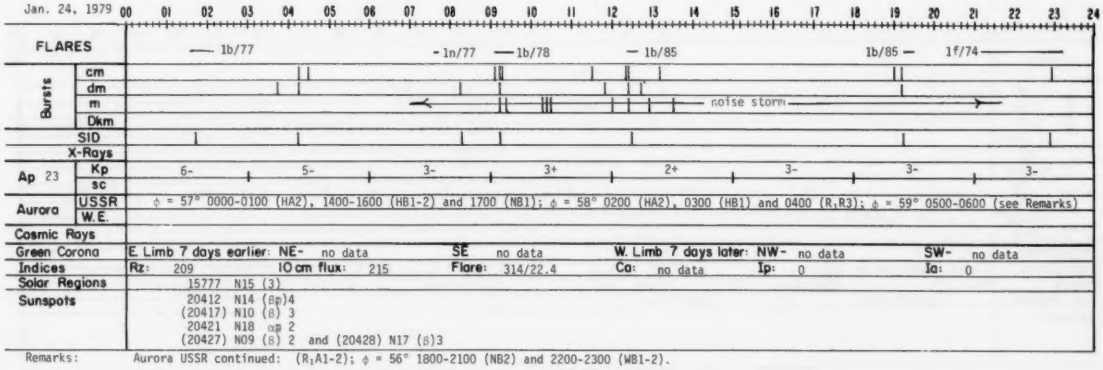

Jan. 19, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 19
Kp
4+ 5o 3- 3+ 3- 2+ 2+ 3-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 138 10cm flux: 194 Flare: 110/23.6 Ca: no data Ip: 0 Ia: 3
Solar Regions
(15789A) N30
Sunspots


Jan. 20, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/72
1n/85
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 12
Kp
3o 3o 3o 2+ 2+ 3- 3- 1+
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 177 10cm flux: 204 Flare: 82/19.4 Ca: no data Ip: 0 Ia: 5
Solar Regions
(15770) S16
Sunspots
S17

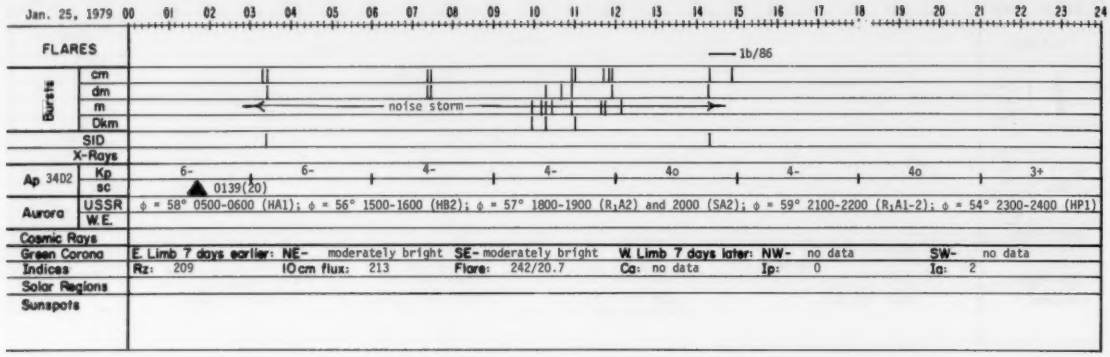


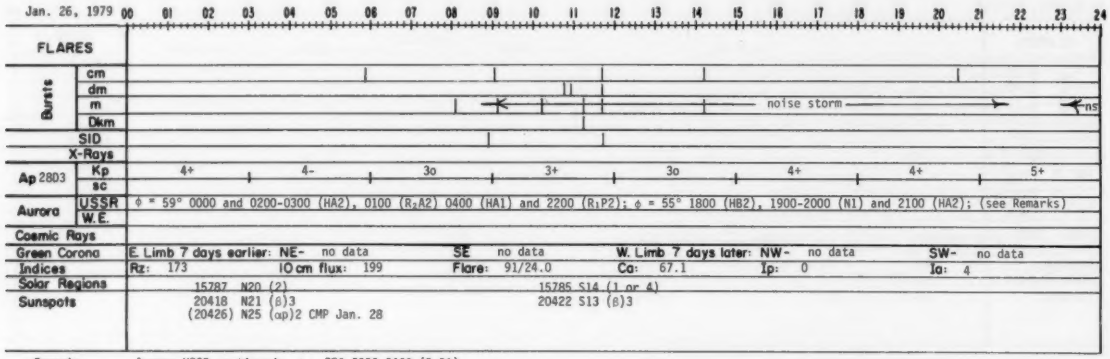




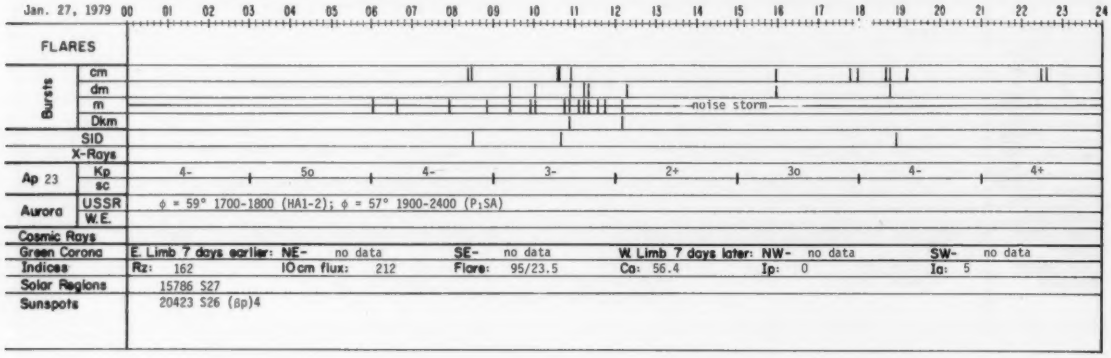


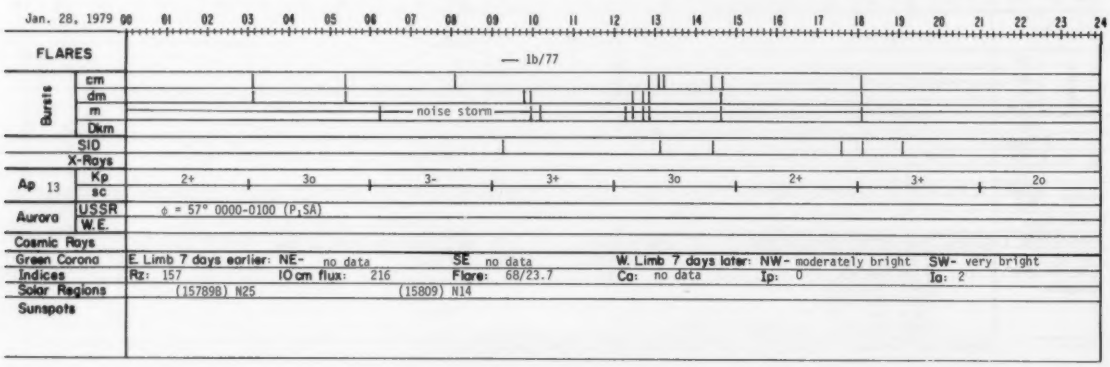
Remarks: Aurora USSR continued: (R1A1-2); ϕ = 56° 1800-2100 (NB2) and 2200-2300 (WB1-2).

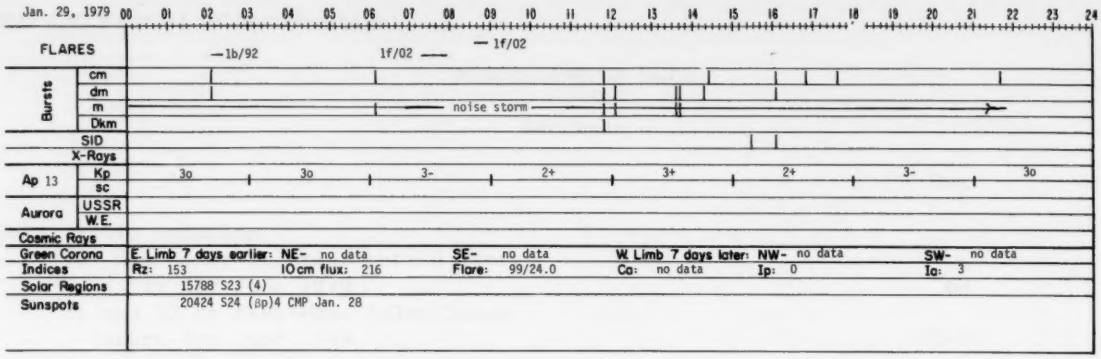


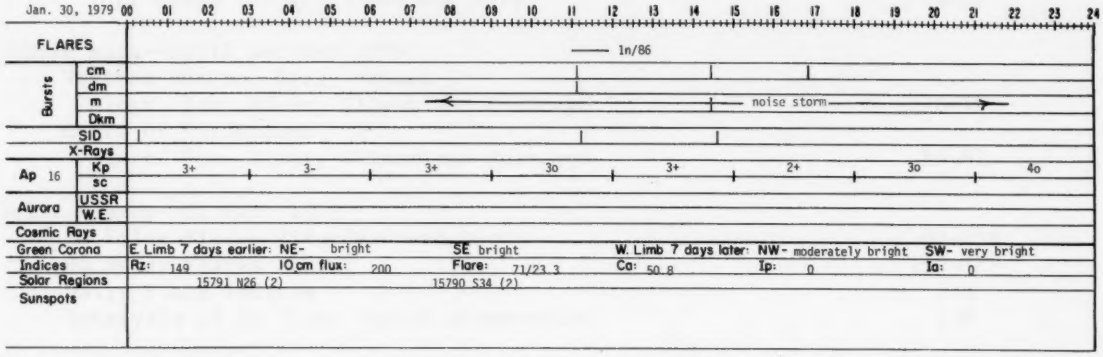


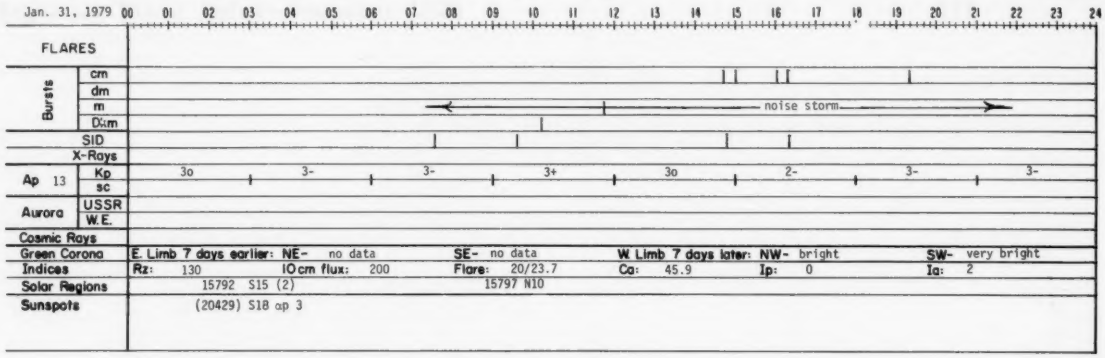
Remarks: Aurora USSR continued: φ = 57° 2300-2400 (R1R1)






Jan. 29, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/92
1f/02
1f/02
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 13
Kp
3o 3o 3- 2+ 3+ 2+ 3- 3o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 153 10cm flux: 216 Flare: 99/24.0 Ca: no data Ip: 0 Ia: 3
Solar Regions
15788 S23 (4)
Sunspots
20424 S24 (βp)4 CMP Jan. 28


Jan. 30, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/86
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 16
Kp
3+ 3- 3+ 3o 3+ 2+ 3o 4o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE bright W. Limb 7 days later: NW- moderately bright SW- very bright
Indices
Rz: 149 10cm flux: 200 Flare: 71/23.3 Ca: 50.8 Ip: 0 Ia: 0
Solar Regions
15791 N26 (2) 15790 S34 (2)
Sunspots


Jan. 31, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 13
Kp
3o 3- 3- 3+ 3o 2- 3- 3-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- bright SW- very bright
Indices
Rz: 130 10cm flux: 200 Flare: 20/23.7 Ca: 45.9 Ip: 0 Ia: 2
Solar Regions
15792 S15 (2) 15797 N10
Sunspots
(20429) S18 αp 3

SGD 420 Part II (Comprehensive)

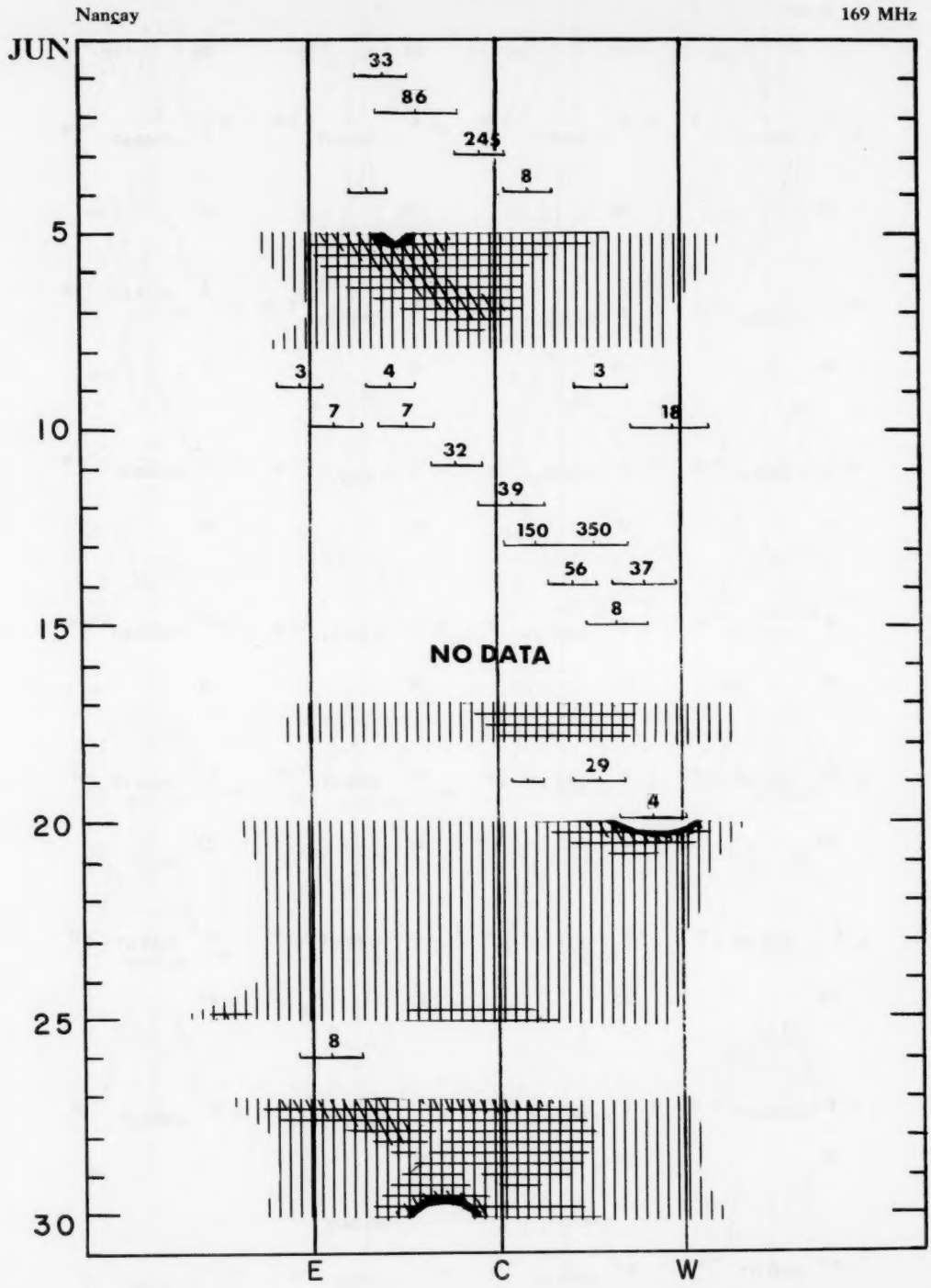
MISCELLANEOUS DATA

Contents

	Page
Solar Radio Emission	
169 MHz Solar Interferometric Chart Nancay for June 1979	69
21 and 43 cm East-West Solar Scans Fleurs for June 1979	70-71
Spectral Observations Fort Davis for April and May 1979	72-77
Cosmic Rays--April and May 1979	
Neutron Monitor Daily Values Alert, Deep River, Climax and Huancayo	78-79
Chart of Variations Alert, Deep River, Climax and Huancayo	80-81
Solar Flares--January 1979	
Hα Solar Flares (Standardized Data)	82-118
Hα Solar Flares Peking	118-119
Daily Flare Indices	119
Intervals of No Flare Patrol Observation	120
Regional Flare Index--December 1978	121

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

JUNE 1979

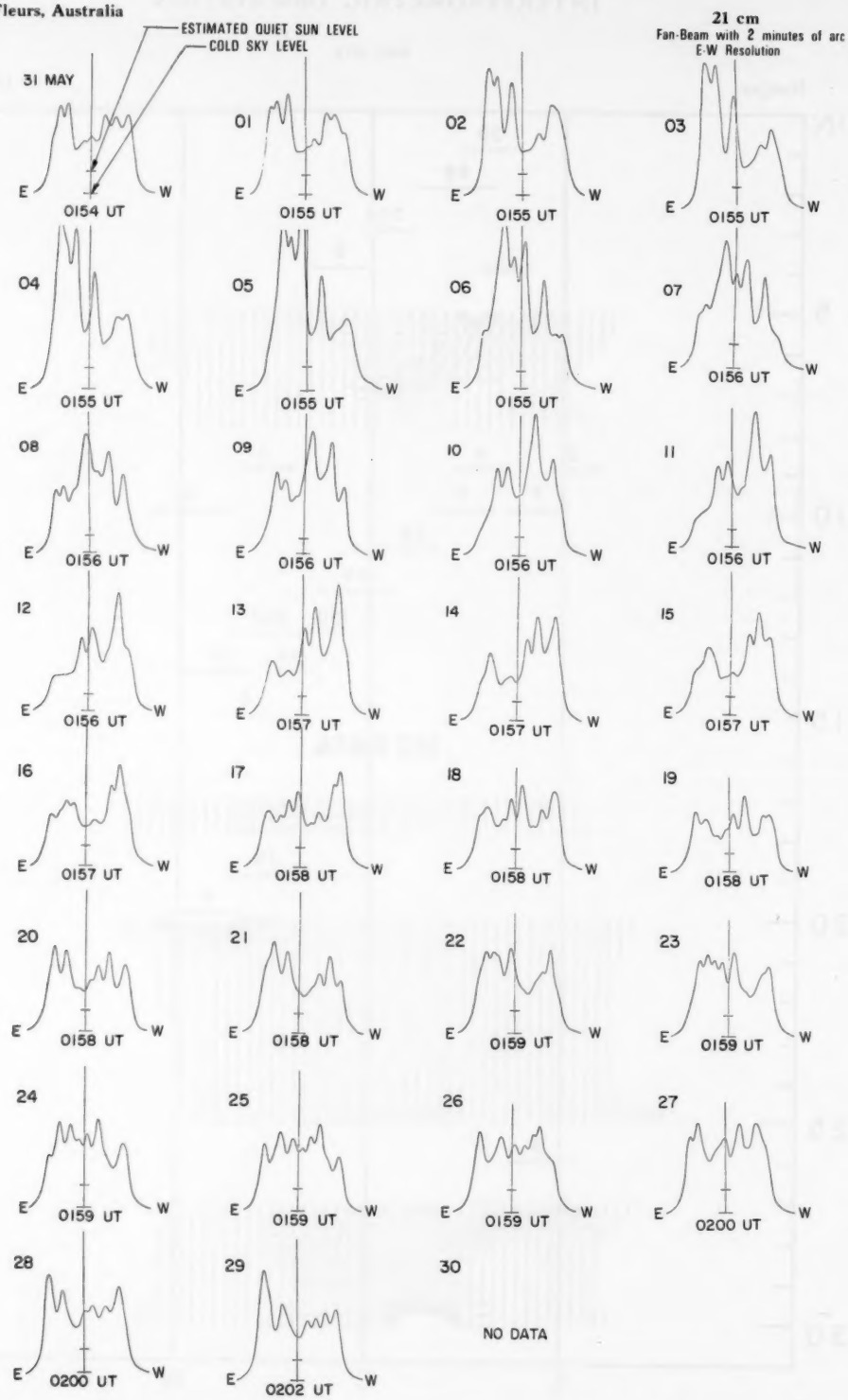


EAST-WEST SOLAR SCANS

JUNE 1979

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

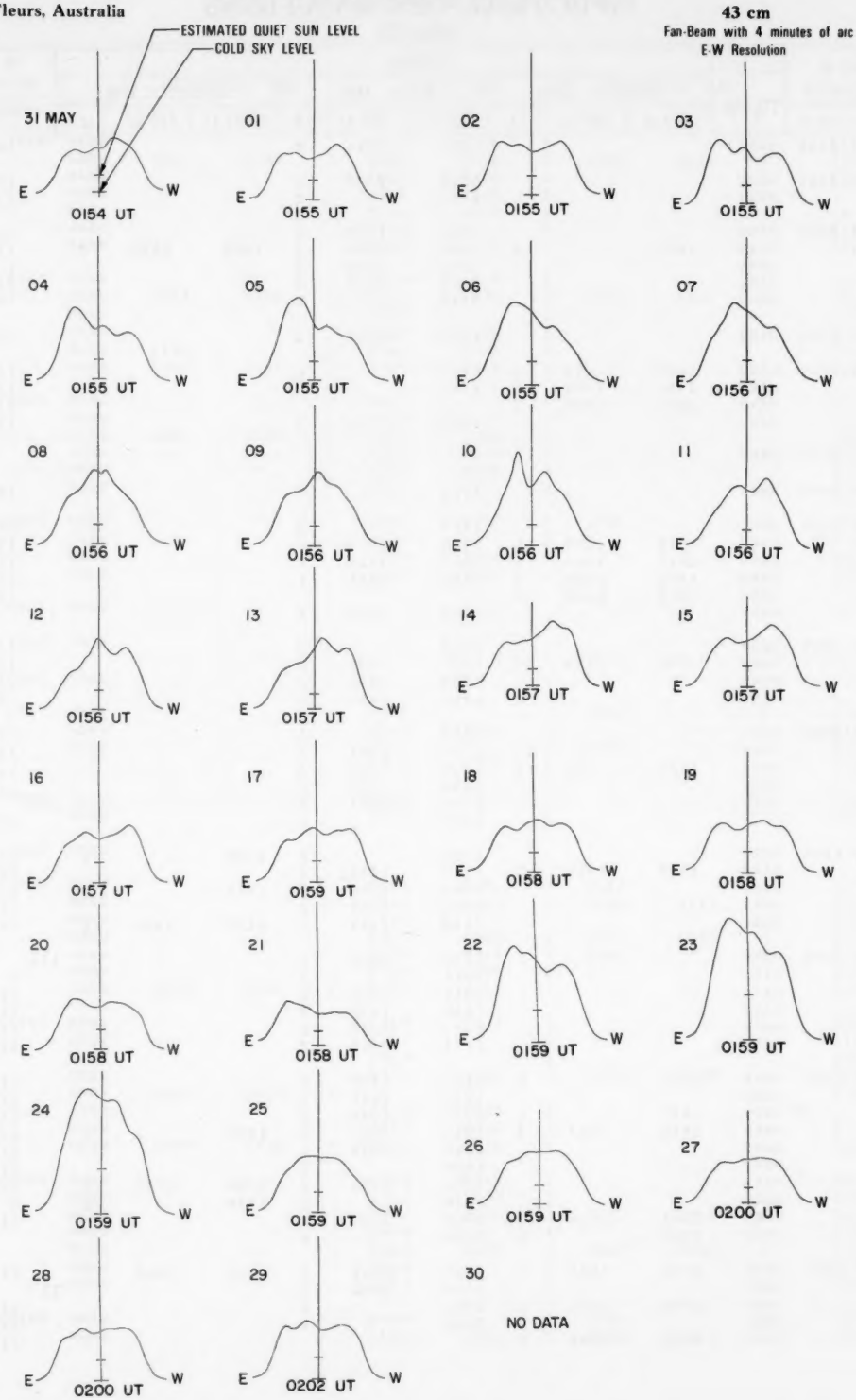


EAST-WEST SOLAR SCANS

JUNE 1979

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	1315	2345	HARV				1435	2254	2				IN
02	1315	2345	HARV				1315	2337	1				IN
			HARV				1933		2				IIIB
03	1315	2345	HARV				1319	1740	1				IN
			HARV	1405		1	1405	1406	3	1405	1406	3	IIIG,V
			HARV				1740	2128	2				I
			HARV				2004	2022	2				IIIB
			HARV				2128	2145	1				IN
04	1315	2345	HARV				1323	2345	1				IN,W
05	1315	2345	HARV	1457	1459	2	1457		1				IIIG
			HARV	1700	1701	3	1700		2				IIIGG
			HARV	1824	1828	2							IIIGG
			HARV				2139	2141	2				IIIG
06	1315	2400	HARV										
07	1305	2345	HARV				1703		1				IIIB
08	1300	2345	HARV				1407		2				IIIG
			HARV	1508	1509	1	1508	1509	2				IIIG
			HARV	1517	1519	1	1517	1519	2				IIIGG
			HARV	1822	1823	2	1822	1823	1				IIIGG
			HARV	1843	1846	2							IIIG
			HARV				1846	1851	2			II	
09	1300	2345	HARV				1348		1				IIIB,W
			HARV	1353	1354	1	1351	1354	2				IIIGG
			HARV				1509	1510	2				IIIG
			HARV				1810	1811	2				IIIG
10	1300	2345	HARV				1455		1				IIIB
			HARV				1717	1721	3				IIIGG
			HARV	1725	1726	2	1724	1728	3				IIIGG,U
			HARV				1935	1936	2				IIIG
			HARV				2042	2043	2			IIG	
			HARV				2302		1				IIIB,W
11	1300	2345	HARV				1326		2	1326		1	IIIB
			HARV	1339	1340	3	1335	1340	3				IIIGG
			HARV				1459	1500	3	1500		1	IIIG,V
			HARV				2140	2143	2				IIIG
			HARV				2156	2158	2	2157	2158	1	IIIG,V
12	1300	2400	HARV				1330	1449	1			IIN	,W
			HARV				1510		1				U
			HARV				1515	1518	2				IIIG,U
			HARV				1636	1638	3				IIIG,U,V
			HARV				2337	2338	2				IIIG
			HARV				2358	2400	2				IIIG,U
13	1300	2350	HARV	1346		1	1345	1349	3				IIIG,U,V
			HARV				1514	1517	1				IIIG
			HARV	1537		1	1537	1538	2				IIIG
			HARV	1616	1617	3	1610	1617	3	1612		3	IIIGG,V
			HARV				1618	1633	1				IIIN
			HARV				1655		2				IIIG
			HARV				1731	1736	2	1735	1736	2	IIIG
			HARV				1834		2	1834		2	U
			HARV	2340	2344	3	2342	2343	2				IIIGG
			HARV	2349		1	2349		1				
14	1315	2345	HARV	1440	1442	3	1440	1448	3	1441	1443	3	IIIG,V
			HARV				1447	1500	3			II	
			HARV	1950	1951	1	1950		1				IIIB
			HARV				2126		1				IIIB
			HARV	2305	2306	1							IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
15	1315	2345	HARV				1317	1318	3				IIIG
			HARV	2008	2009	2	2008	2011	3	2008	2011	3	IIIGG,V,U
			HARV				2012	2013	2				IIIG
			HARV				2015	2028	3				II
			HARV				2124	2229	1				IN
			HARV				2242		2				IIIG
			HARV				2328		2				IIIG
16	1315	2347	HARV				1608	1609	2				IIIGG
			HARV	1648	1654	3	1648	1654	3	1650	1651	3	IIIGG,V
			HARV				1927		1				IIIG
			HARV				2105	2106	1				IIIG
			HARV	2146		2	2145	2147	3				IIIGG
			HARV	2345	2347	2	2345	2347	3				IIIGG
17	1315	2345	HARV				1417		1				IIIG
			HARV				1443		2				IIIB
			HARV	1635	1637	1	1635	1640	2				IIIGG
			HARV				1830	1833	2				IIIGG
			HARV				2007	2008	1				IIIG,W
			HARV				2110	2112	2				IIIG
18	1315	2345	HARV				1844	1847	3	1846		2	IIIGG,V
			HARV				1951		2				IIIG
			HARV				2009	2012	2				IIIG,U
			HARV				2159	2201	1				IIIG
19	1315	2345	HARV										
20	1315	2345	HARV										
21	1315	2345	HARV										
22	1315	2345	HARV				1932		2	1932		2	IIIG
			HARV				2000	2001	3				IIIG
			HARV				2141		3	2141		3	IIIG
			HARV				2306	2313	1				IIIN
23	1315	2345	HARV				1454		1				IIIB,W
			HARV				2246		1				IIIB
24	1315	2345	HARV										
25	1315	2350	HARV				1553	1554	2	1553		2	IIIG
			HARV				1608	1613	3	1608	1613	3	IIIG
			HARV				1841		1				IIIB
			HARV				1955	1959	3	1955	1959	3	IIIGG
			HARV				2016	2019	2	2016		2	IIIG
			HARV				2130	2256	1				IIIN,W
			HARV	2140	2141	2	2135	2141	3				IIIGG,V
26	1315	2345	HARV				1315	2033	1				IN,W
			HARV				1523		2				IIIG
			HARV				1625		2				IIIB
			HARV				1932	1933	3	1932	1933	3	IIIG,V
			HARV	2002	2003	1							IIIG,W
			HARV				2012	2033	3				II
			HARV				2033	2345	2				I
			HARV	2325	2326	2	2325	2326	2				IIIG
27	1315	2345	HARV				1315	2345	1				IN,W
			HARV				1458	1459	1				IIIB
			HARV				1513	1515	2	1513	1515	2	IIIG
			HARV				1926		1				IIIG
			HARV				2017	2022	3	2017	2022	3	IIIGG
			HARV				2228		2				IIIB
			HARV				2323		2				IIIG
28	1315	2345	HARV				1526		2	1526		2	IIIB
			HARV				1610	1613	2	1610	1613	3	IIIG,V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
28			HARV				1613		2	1619		2	IIIG
			HARV				1624	1625	2				IIIG
			HARV				1711		1				IIIB
			HARV				1740	1741	3	1740	1741	3	IIIG
			HARV				1744	1751	2	1749	1751	2	IIIGG
			HARV				1854	1855	2	1854	1855	2	IIIG
			HARV				1903	1905	3	1903	1904	3	IIIG,V,U
			HARV				1907	1910	3	1907	1908	3	IIIGG
			HARV				1934	2027	1	1934	2027	1	IIIN
			HARV				2031	2033	3	2032	2033	3	IIIGG,V,U
			HARV				2039	2046	3	2039	2046	3	IIIGG
			HARV				2157		1				IIIB
			HARV				2256	2257	1				IIIG
			HARV				2312	2314	1				IIIG
29	1315	2245	HARV				1509	2237	1				IIIN
			HARV	1605		1	1602	1607	1				IIIG,N
			HARV	1608	1614	1	1608	1614	2	1611	1614	2	IIIG,N
			HARV				1610	1612	2				UNCLF
			HARV				1641		2	1641		2	IIIG
			HARV				1722	1723	2				IIIG
			HARV				1930	1932	3	1931		3	IIIG
			HARV				2234	2235	3	2234	2235	2	IIIGG
30	1315	2245	HARV				1819		1				IIIB,W
			HARV				2004		2				IIIB
			HARV	2223	2225	3	2224	2225	1				IIIG

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS										SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT		
01	1315	2245	HARV				1557		2	1557		1		IIIB
			HARV				1608		2	1608		3		IIIG
			HARV				1622	1623	2	1622	1623	3		IIIG
			HARV				1631	1632	2	1631	1632	3		IIIG
			HARV				1701	1717	2					IIIN
			HARV				1728	1753	1					IN,W
			HARV				1818	1819	1	1818	1819	2		IIIG
			HARV				2053		1					
02	1250	2250	HARV				1324	1329	2	1329		2		IIIG
			HARV				1452		3	1452		2		IIIG
			HARV				1623		1	1623		1		IIIG
			HARV				1629	1631	1	1629		1		IIIG
			HARV				1652	1653	1					U
			HARV				1656	1658	3	1656	1658	3		IIIG,V
			HARV	1658	1659	1								IIIG,RS
			HARV				1659	1725	3	1765	1723	3	II	
			HARV				1729	1730	1					UNCLF
			HARV	1925	1926	3	1925	1926	3					IIIG
			HARV				2116	2117	2	2016	2017	2		IIIG
03	1245	2245	HARV				1350	1457	1					IN,W
			HARV				1355		1					IIIB,W
04	1245	2255	HARV				1530	1531	2	1530	1531	2		IIIG
			HARV				1852	1853	2					IIIB
			HARV				1902	2050	1					IN,W
			HARV				2033	2034	2	2033		2		IIIG,V
			HARV	2134		3								
05	1245	2245	HARV	1739	1740				2					IIIG
			HARV	2024					1					IIIG
			HARV	2030	2031				2					IIIG
06	1245	2245	HARV				1543	1545	1	1543	1545	1		IIIG
07	1245	2250	HARV											
08	1245	2300	HARV				1444	1445	2					IIIG
			HARV				1516		1					IIIB,W
			HARV				1753		2	1753		2		IIIG
			HARV				1849	1855	2	1849	1855	3		IIIG
09	1245	2245	HARV				1552		2	1552		2		IIIB
			HARV				1600		2	1600		3		IIIB
			HARV				1620	1623	2	1620		3		IIIG
			HARV				1631	1646	2	1631	1635	2		IIIN
			HARV				1707		3	1707		3		IIIG
			HARV				1719	1727	1	1719	1727	1		IIIN
			HARV				1734	1737	2	1734	1737	2		IIIG,U
			HARV				1803		1					IIIB,W
			HARV				1829		3	1829		2		IIIG
			HARV				1945		2	1945		1		IIIG
			HARV				2053		1					IIIB,W
			HARV				2216		1					IIIG
10	1245	2245	HARV				1629		1					IIIB,W
11	1245	2245	HARV											
12	1245	2245	HARV				1255	1256	2					IIIG
			HARV				1334		2					IIIB
			HARV				1644		2					IIIG
			HARV				1722		3					IIIG
			HARV				2152		1					IIIG
13	1245	2245	HARV				1643	1645	1					IIIG,W
			HARV				2058	2059	1	2058	2059	1		IIIG
14	1245	2245	HARV				1420		3	1420		3		IIIG,U

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
14			HARV				1920	1923	2				IIIG
15	1245	2245	HARV				1612	1613	1	1612	1613	2	IIIG
			HARV				1900		2				IIIB
16	1245	2245	HARV				1828	1832	1	1828	1831	1	IIIGG
17	1340	2245	HARV										
18	1310	2245	HARV										
19	1241	2245	HARV				1715	1716	2				IIIG
			HARV				1934	1935	1				IIIG
20	1230	2245	HARV				1315		1				IIIB
			HARV				1635	1640	2	1635	1637	3	IIIGG
			HARV				1746	1749	2	1746	1750	2	IIIGG
21	1233	2245	HARV				1449		1				IIIB,W
			HARV				1520		2				IIIB
22	1230	2245	HARV										
23	1230	2245	HARV				1951		1				IIIG
24	1230	2245	HARV				1531	1532	1				IIIG,W
			HARV				1617	1618	1				IIIG
			HARV				1708	1709	3	1708	1709	3	IIIG
			HARV				1802		3	1802		3	IIIG
			HARV				1907		2	1907		2	IIIG
			HARV				1932		2				IIIB
			HARV				2038	2040	1	2038	2040	1	IIIG,W
25	1230	2245	HARV				1723	1724	2				IIIG
			HARV				2137	2138	2	2137	2138	2	IIIG
			HARV				2207	2210	3	2208	2210	3	IIIGG,V
26	1230	2245	HARV				1243	1245	3				IIIG
			HARV				1736	1737	2				III,V
			HARV				1954		1				IIIB,W
			HARV				2203		1				IIIG,W
27	1230	2245	HARV				1741		1				IIIG
28	1230	2245	HARV				1345		1				IIIB
			HARV				1503	1505	1				IIIG
			HARV				1523	1528	3	1523	1528	3	IIIGG
			HARV				1733	1737	2	1733	1737	2	IIIG
			HARV				1816	1819	3	1816	1819	3	IIIG
			HARV				1828	1839	3	1828	1839	3	IIIG
			HARV				1914		1	1914		1	IIIB
			HARV				2056	2058	2	2056		2	IIIG
29	1230	2245	HARV				1409		2				IIIB
			HARV				1416		2	1416		1	IIIB
			HARV				1444	1445	2				IIIG
			HARV				1453	1455	3				IIIGG
			HARV				1735	1737	2	1736		3	IIIGG
			HARV				1745	1748	2	1745	1748	3	IIIGG
			HARV				1752	1757	3	1752	1755	3	IIIGG
			HARV				1801	1803	3	1801	1803	3	IIIG
			HARV				1916	1922	2	1916	1922	2	IIIGG
			HARV				1928	1934	1				IIIN
			HARV				1947	1949	2	1947	1948	2	IIIG
			HARV				1956	2000	3	1956	2000	3	IIIG,V
			HARV				2006	2008	3	2006	2008	3	IIIG
			HARV				2024		2	2024		2	IIIB
			HARV				2033	2034	1				IIIG
			HARV				2110	2112	2	2110	2112	2	IIIGG
			HARV				2124	2133	3	2124	2130	3	IIIGG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
29			HARV				2145	2200	1				IIIN
30	1230	2245	HARV				1339		1				IIIB,W
			HARV				1833		2	1833		2	IIIB
31	1230	2245	HARV				1613	2100	1	1613	2100	1	I,IIIN

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

COSMIC RAY INDICES

(Neutron Monitors)

April-May 1979

Apr 1979	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	May 1979	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300
1	7230.0	6736.2	1	6956.1	6608.8
2	7163.5	6689.1	2	7023.0	6650.3
3	7099.4	6659.9	3	7042.3	6686.0
4	7087.9	6627.4	4	7114.8	6720.7
5	6995.0	6558.4	5	7130.0	6781.3
6	7027.9	6596.7	6	7081.0	6718.2
7	7064.2	6636.5	7	7066.8	6692.8
8	7070.3	6665.6	8	7100.4	6696.8
9	7131.8	6710.0	9	7079.3	6674.6
10	7116.3	6690.9	10	7042.4	6653.5
11	7090.9	6717.4	11	7003.9	6635.5
12	7160.2	6748.0	12	7032.4	6630.3
13	7166.1	6739.1	13	7048.2	6655.0
14	7112.1	6716.6	14	7021.0	6657.3
15	7101.9	6731.8	15	6997.8	6618.2
16	7042.3	6664.6	16	6994.6	6611.4
17	7027.5	6608.5	17	6965.2	6616.6
18	7046.0	6616.6	18	6992.8	6624.6
19	7083.7	6642.6	19	6943.4	6562.1
20	7132.8	6670.3	20	6893.5	6526.8
21	7122.6	6662.3	21	6862.7	6488.4
22	7073.8	6620.5	22	6822.5	6446.0
23	6981.3	6578.9	23	6807.5	6412.5
24	7001.5	6567.3	24	6798.8	6418.7
25	7049.6	6615.7	25	6803.9	6436.8
26	7077.8	6647.6	26	6840.6	6461.8
27	7071.3	6665.8	27	6859.7	6475.7
28	7028.5	6606.7	28	6855.5	6470.0
29	6854.5	6413.5	29	6840.3	6476.7
30	6796.3	6400.0	30	6751.4	6402.3
31	6869.1	6451.5	31	6777.3	6379.4
MEAN	7060.5	6634.0		6953.2	6577.1

COSMIC RAY INDICES

(Neutron Monitors)

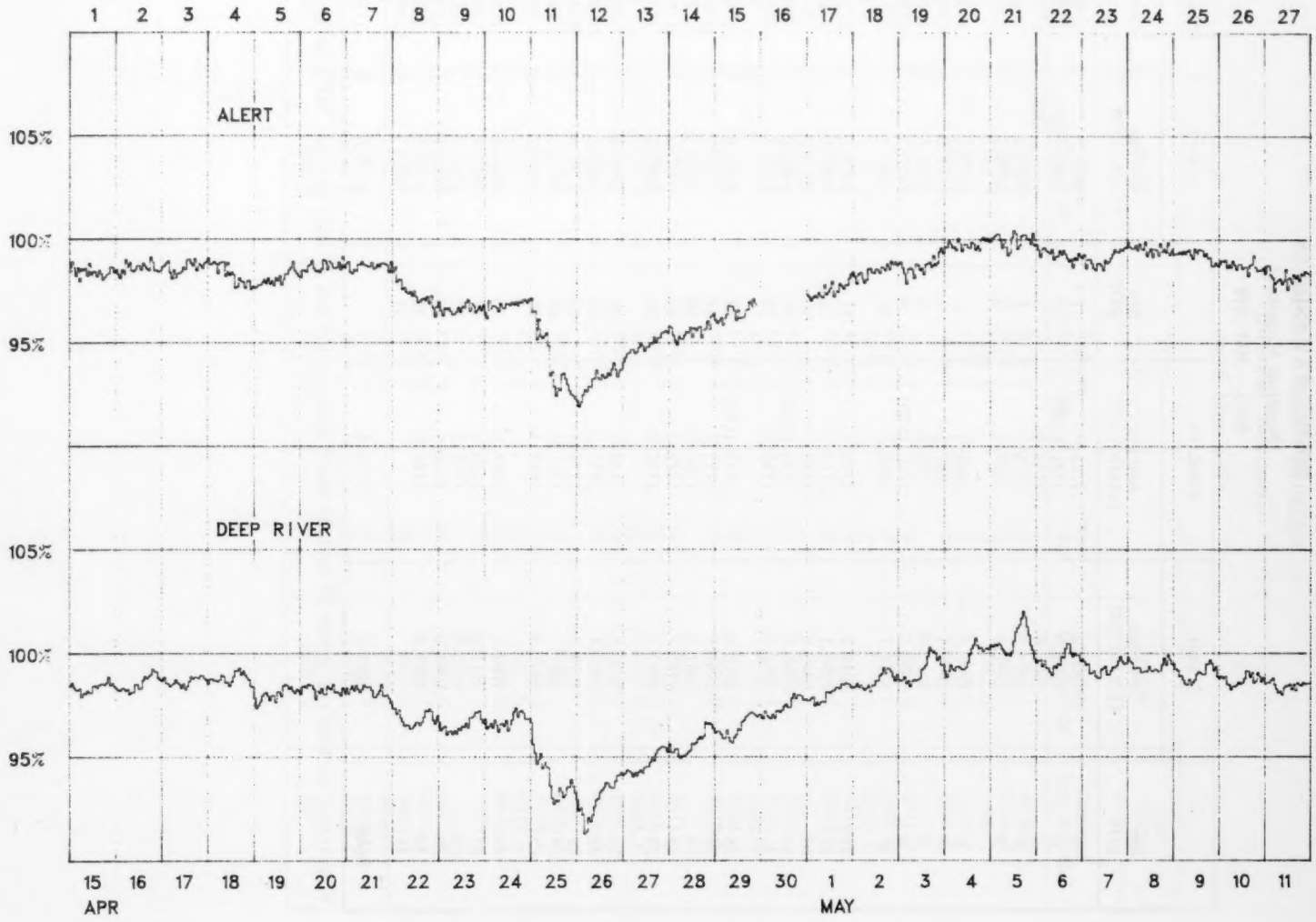
APRIL - MAY 1979

Apr 1979	CLIMAX Average (cts/h)/100	HUANCAYO Average (cts/h)/100	May 1979	CLIMAX Average (cts/h)/100	HUANCAYO Average (cts/h)/100
1	3930.0	1722.7	1	3955.3	1726.6
2	3955.0	1722.6(36)	2	3986.4(30)	1734.6
3	3906.6	1718.4	3	---- (00)	1738.0
4	3902.8	1715.7	4	4026.6	1744.1
5	3791.6	1687.1	5	4059.3	1751.0
6	3747.5	1685.5	6	4008.8	1738.6
7	3779.1	1687.6	7	4002.5	1737.3(38)
8	3813.8	1702.5	8	4015.8	1742.7
9	3825.0	1702.5(38)	9	4022.3	1734.5
10	3864.7	1705.3	10	3984.1	1723.6
11	3914.2	1714.5	11	3971.0	1718.8
12	3958.1	1712.1	12	3961.0	1719.9
13	3945.6	1708.7	13	3973.0	1723.5
14	3956.2	1714.8(34)	14	3963.8	1725.8(38)
15	3952.0	1715.0	15	3935.3	1723.3
16	3958.8	1719.1(38)	16	3926.5	1718.3
17	3957.0	1721.2	17	3933.2	1718.8
18	3962.5	1720.5	18	3924.1	1722.6
19	3916.2	1722.3	19	3917.3	1716.0
20	3927.0	1726.8	20	3888.1	1705.6
21	3933.5	1726.9	21	3858.4	1699.9(38)
22	3910.4	1715.9	22	3829.8	1696.3
23	3879.4	1709.7	23	3798.4	1693.0
24	3887.7	1711.3	24	3811.3	1693.0
25	3801.9	1697.1	25	3816.2	1695.1
26	3763.6	1687.5	26	3844.4	1701.0
27	3811.5	1698.4	27	3850.4	1702.0
28	3855.5	1707.3	28	3852.5	1701.2(36)
29	3894.8	1712.5	29	3845.2	1708.4
30	3927.9	1724.8	30	3781.3	1706.0
31			31	3792.9	1704.9
MEAN	3887.4	1710.4		3916.8	1718.2

Parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 1992 (April 1979–May 1979)

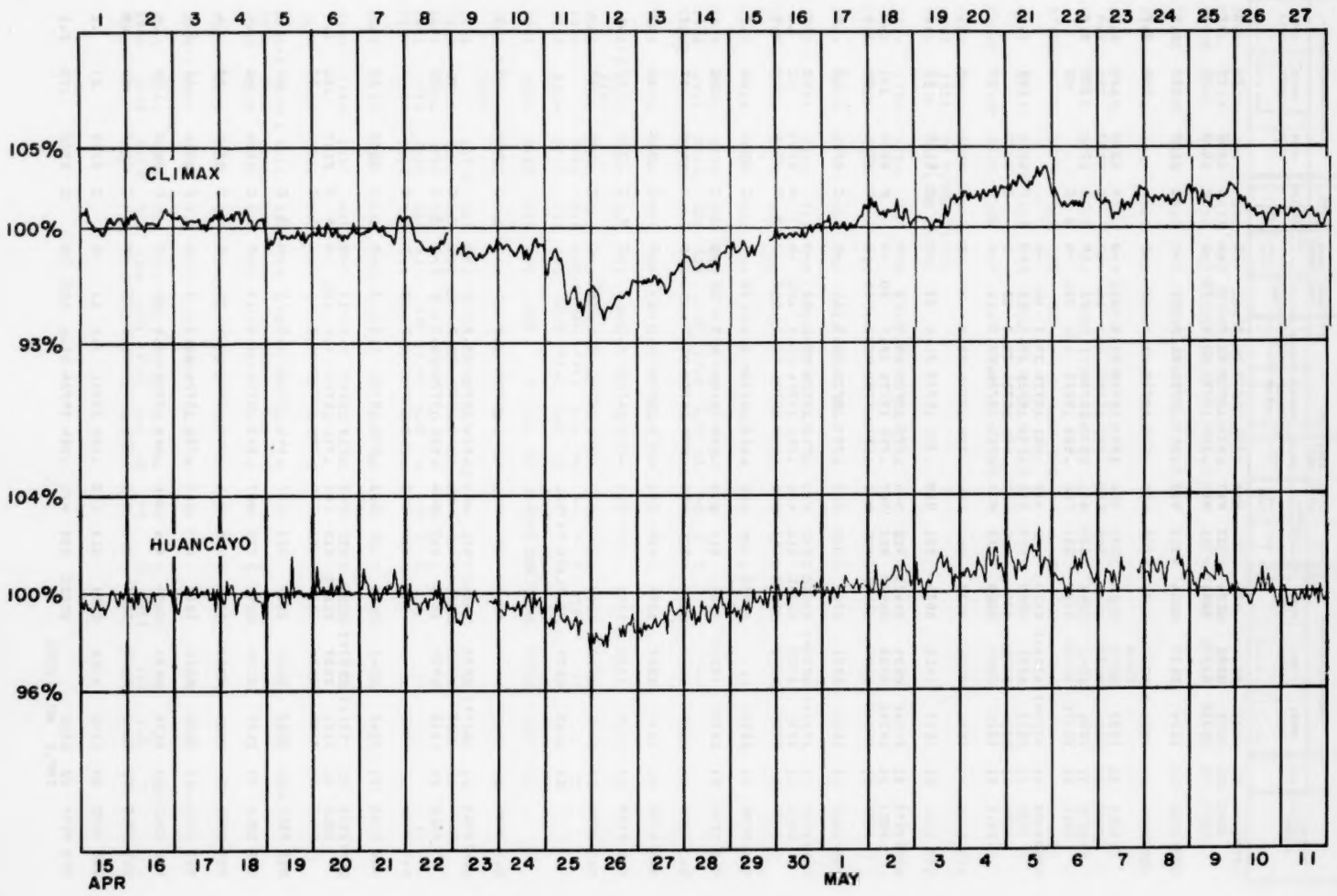


APR

MAY

COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1992 (April - May 1979)



Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
					APPROX		CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY									
	DATE	START	MAX. PHASE	END	LAT.	MER. DIST.				MIN.		CONF.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP70932	01	0027	0028+2	0036	S11	W16	.305	15733	30.8	9	-F				30	.3	D	
VORO	01	0027	0030	0036	S12	W17	.327	15733	30.7	9	-N		C	0030	27	.2	D	
CULG	01	0028E	0028U	0031D	S11	W16	.305	15733	30.8	3D	-F		P	0028	30	.3		
933 CULG	01	0129	0137	0204	S13	W12	.267	15733	31.2	35	-N		C	0137	100	1.0		Y5
GRP70934	01	0223+8	0237+4 0248	0330	S35	00	.530	15739	1.1	67	1F				230	2.7	J	
CULG	01	0223	0248	0300D	S35	W04	.533	15739	31.8	37D	-N		P	0248	180	1.9	F	
VORO	01	0226	0237	0330	S35	E00	.530	15739	1.1	64	1F		C	0237	251	2.9	EJ	
MITK	01	0231	0241	0342	S35	W01	.530	15739	1.0	71	1F		C	0241	230	2.8	E	
PALE	01	0237E	0238U	0310	S33	E06	.508	15739	1.6	33D	-N	2	C		60		DE F	
GRP70935	01	0323+2	0326+2	0339	N12	W38	.651	15726	29.3	16	-N						EJ	
VORO	01	0323	0326	0339	N12	W38	.651	15726	29.3	16	-N		C	0326	108	1.4	EJ	
MITK	01	0324	0326	0344	N12	W38	.651	15726	29.3	20	-N		C	0326			E	
PALE	01	0325	0328	0329	N12	W46	.744	15726	28.7	4	-N	2	C		27		DE	
936 CULG	01	0524	0526	0532	N14	W44	.729	15726	28.9	8	-F		C	0526	40	.6	T	Y5
937 CULG	01	0603	0615	0636	S21	W09	.342	15733	31.6	33	-N		C	0615	50	.5		Y5
GRP70938	01	0634E	0636	0642D	N12	W44	.722	15726	29.0	8	-N						FJ	
ABST	01	0634E	0636	0642D	N12	W47	.755	15726	28.7	8D	-N		P	0636	131	2.0	FJ	
ABST	01	0634E	0636	0642D	N12	W41	.687	15726	29.2	8D	-N		P	0636	96	1.4	DJ	
939 CULG	01	0656	0701	0710	N13	W45	.737	15726	28.9	14	-F		C	0701	40	.6	T	Y5
GRP70940	01	0731+4	0739+1	0820D	N12	W43	.711	15726	29.1	49	-N				50	.7	F	
CULG	01	0731	0739	0820D	N14	W46	.751	15726	28.9	49D	-N		P	0739	60	.8	FT	
CATA	01	0735	0740	0750D	N10	W40	.668	15726	29.3	15D	-N	2	P	0740	45	2.0		
941 HTPR	01	0856E		0905D	S28	E10	.450	15739	2.1	9D	-F		C	0904	20	.2		Y5
942 TEHR	01	0857E	0905U	0906	S12	E39	.638	15741	4.3	9D	-B	1	C		190		U	Y5
943 HTPR	01	1115	1118	1130	S20	W10	.335	15733	31.7	15	-F		C	1118	10	.1		Y5
944 HTPR	01	1336	1337	1350	N15	E48	.775	15745	5.2	14	-F		C	1337	10	.2		Y5
945 HTPR	01	1336	1338	1340	S12	E29	.501	15741	3.7	4	-F	*	C	1338	10	.1		Y5
946 HTPR	01	1446	1452	1512	S12	E29	.501	15741	3.8	26	-F		C	1452	80	.9	E	Y5
	01	1533	1627	NO FLARE PATROL														
	01	1634	1644	NO FLARE PATROL														
	01	1650	1709	NO FLARE PATROL														
947 HUAN	01	1749		1811	S33	E01	.500	15739	1.8	22	-F	1	C	1758	45	.5	E	Y5
GRP70948	01	1827+3	1832	1836D	N11	W54	.824	15726	28.7	9	-N							
RAMY	01	1827	1902	1926	N11	W54	.824	15726	28.7	59	-N	2	C		24			
PALE	01	1830	1832	1836	N12	W54	.826	15726	28.7	6	-N	3	C		23			
949 HUAN	01	1952		2004	S19	E38	.649	15746	4.7	12	-F	1	C					Y5
950 HUAN	01	2042	2043	2050	S35	E33	.698	15740	4.3	8	-F	1	C	2043	15	.2	D	Y5
GRP70951	01	2101+5	2107+1	2114	N12	E43	.711	15745	5.1	13	-N							
CULG	01	2101	2107	2113D	N12	E43	.711	15745	5.1	12D	-N	*	P	2107	100	1.4		
PALE	01	2106	2108	2114	N13	E44	.726	15745	5.2	8	-N	*	C		37			
952 PALE	01	2102	2102	2107	S21	E37	.646	15746	4.7	5	-N	3	C		69			Y5
953 CULG	01	2131	2134	2150	S35	W07	.539	15739	1.4	19	-F		C	2134	40	.4		Y5
954 CULG	01	2325	2348U	0004	N18	W45	.755	15751	29.6	39	-F		C	2348	30	.4		Y5
955 CULG	02	0004	0006	0013	N13	W49	.780	15726	29.3	9	-N		C	0006	100	1.6		Y5
956 CULG	02	0134	0146	0159	N14	W56	.849	15726	28.9	25	-F		C	0146	30	.6	K	Y5
957 CULG	02	0142	0148	0237	S11	W30	.512	15733	30.8	55	-N		C	0148	60	.8	F	Y5
958 VORO	02	0246	0250	0257	S13	E22	.405	15741	3.8	11	-F		C	0250	27	.2	DH	Y5
959 MITK	02	0322		0332E	S33	W21	.584	15734	31.6	10D	?N		C	0332	170	2.1		Y5
	IMP.1 NO ↑ VORO																	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP70960	02	0336	0339+3	0349D	S32	W17	.545	15739	31.9	13	-N				160	1.9	J
VORO	02	0336	0339	0349	S33	W22	.592	15739	31.5	13	1F		C	0339	179	2.2	EJ
CULG	02	0339E	0342	0425	S32	W13	.520	15739	1.2	46D	-N		P	0342	150	1.9	F
961 CULG	02	0339E	0339E	0406	N12	E40	.676	15745	5.2	27D	-F		P	0339	30	.4	Y5
962 CULG	02	0340	0351	0411	N12	W61	.887	15726	28.6	31	-F		C	0351	70	1.5	Y5
963 CULG	02	0629	0639U	0651	S34	W03	.515	15739	2.0	22	-F		C	0639	50	.6	F Y5
964 CULG	02	0709	0713	0732	S33	W07	.509	15739	1.8	23	-N		C	0713	50	.6	Y5
965 CATA	02	0725E	0730	0735	S12	E35	.585	0	4.9	10D	-F	1	P	0730	140	1.5	Y5
966 CULG	02	0747	0757D	0757D	N18	W59	.881	0	28.9	10D	-F		P	0757	40	.8	Y5
967 CATA	02	0803E	0810D	0835	N14	E37	.649	15745	5.1	32D	-N	1	P	0803	28	1.8	Y5
	02	1033	1039	NO FLARE PATROL													
	02	1200	1310	NO FLARE PATROL													
	02	1320	1536	NO FLARE PATROL													
968 RAMY	02	1704	1704	1714	S17	W28	.512	15733	31.6	10	-B	2	C		23		Y5
969 RAMY	02	1725	1725	1730	N12	E31	.564	15745	5.1	5	-N	3	C		20		Y5
970 RAMY	02	1734	1736	1742	N11	W66	.922	15726	28.8	8	-B	3	C		57		Y5
971 RAMY	02	1742	1746	1812	S12	E16	.312	15741	3.9	30	-B	3	C		83		Y5
972 BIGB	02	1747	1754	1805	S32	E02	.484	0	2.9	18	-N	1	C	1754	15		Y5
973 RAMY	02	1825	1828	1835	N25	E74	.974	15750	8.3	10	-N	3	C		28		Y5
GRP70974	02	1910	1911	2007	S19	E22	.450	15746	4.4	57	-B						E
RAMY	02	1910	1911	2018	S20	E20	.435	15746	4.3	68	-B	3	C		58		
HUAN	02	1928E		1955	S19	E25	.487	15746	4.7	27D	-F	1	P	1930	50	.5	E
975 RAMY	02	1915	1921	1933	N11	W67	.928	15726	28.8	18	-B	3	C		28		Y5
GRP70976	02	1922>9	1946 2014	2016	S13	E15	.306	15741	3.9	54	-N						
RAMY	02	1922	1946	2016	S12	E15	.297	15741	3.9	54	-B	*	C		95		F
HUAN	02	1945		2009	S13	E15	.306	15741	3.9	24	-N	*	P	2001	60	.6	E
HUAN	02	2013	2014	2016	S13	E13	.279	15741	3.8	3	-F	*	C	2014	25	.3	D
977 BIGB	02	2038	2043	2102	S31	E36	.693	0	5.6	24	-N	2	C	2043	15		Y5
GRP70978	02	2046+5	2051+0 2057	2103	S13	E13	.279	15741	3.8	17	-N				40	.4	D
HUAN	02	2046		2054D	S14	E12	.277	15741	3.8	8D	-N	2	P	2051	20	.2	D
CULG	02	2048	2051	2111	S13	E11	.254	15741	3.7	23	-N		C	2051	30	.3	
RAMY	02	2051	2051	2055	S12	E14	.283	15741	3.9	4	-B	3	C		45		
HOLL	02	2051	2051	2055	S13	E15	.306	15741	4.0	4	-B	2	C		53		
HOLL	02	2057	2057	2103	S13	E15	.306	15741	4.0	6	-N	2	C		22		
979 BIGB	02	2057	2100	2108	S19	E39	.660	0	5.8	11	-N	2	C	2100	25		Y5
980 BIGB	02	2103	2106	2115	N15	E45	.744	0	6.3	12	-N	2	C	2106	20		Y5
981 HOLL	02	2157	2159	2202	S12	E14	.283	15741	4.0	5	-B	2	C		61		Y5
GRP70982	03	0005+0	0006+1	0011	S12	E08	.205	15741	3.6	6	-N				35	.4	DH
VORO	03	0005	0007	0010	S13	E08	.218	15741	3.6	5	-N		C	0007	54	.5	DH
CULG	03	0005	0006	0012	S12	E08	.205	15741	3.6	7	-B		C	0006	20	.2	
983 VORO	03	0008	0021	0038	S21	E23	.478	15746	4.7	30	1F		C	0021	179	2.0	EL Y5
GRP70984	03	0044+1	0045 0053+0	0100	S13	E13	.278	15741	4.0	16	-N				110	1.1	EH
VORO	03	0044	0045	0055	S13	E08	.218	15741	3.6	11	-N		C	0045	45	.4	DH
CULG	03	0045	0053	0103	S13	E14	.291	15741	4.1	18	-N		C	0053	100	1.0	T
VORO	03	0050	0053	0057	S15	E15	.324	15741	4.2	7	-N		C	0053	125	1.3	E

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Millionths of Disk	CORR AREA Sq. Deg.		
GRP70985	03	0254+1	0256+1	0304	S14	E13	.288	15741	4.1	10	-F				50	.5	E	
CULG	03	0254	0257	0306	S13	E12	.265	15741	4.0	12	-F		C	0257	40	.4	T	
VORO	03	0255	0256	0302	S15	E14	.311	15741	4.2	7	-N		C	0256	63	.6	E	
986 VORO	03	0323	0327	0337	S13	E06	.198	15741	3.6	14	-N		C	0327	54	.5	DH	Y5
987 CULG	03	0359U	0436U	0458	N21	E72	.963	15750	8.6	59D	?F		C	0436	100		S	Y5
	IMP.1 NO I MITK																	
988 CULG	03	0410	0415	0424	S10	E09	.194	15741	3.8	14	-F		C	0415	20	.2	T	Y5
989 CULG	03	0436	0437	0449	S12	E11	.242	15741	4.0	13	-N		C	0437	40	.4	FT	Y5
990 CULG	03	0601	0606	0633	N20	E70	.953	15750	8.5	32	1B		C	0606	90			Y5
991 CULG	03	0618	0620	0627	S13	E05	.190	15741	3.6	9	-F		C	0620	20	.2	T	Y5
992 CULG	03	0629	0633	0642	S21	W36	.633	15733	31.6	13	-N		C	0633	30	.4		Y5
993 CULG	03	0658	0702	0714	S21	W37	.644	15733	31.5	16	-N		C	0702	40	.5		Y5
994 CULG	03	0731	0737	0746	N26	E70	.959	15750	8.6	15	-N		C	0737	50			Y5
995 CULG	03	0735	0741	0804	N17	W60	.887	15751	29.8	29	-B		C	0741	80	1.6		Y5
996 CULG	03	0746	0747	0800	S11	E08	.192	15741	3.9	14	-N		C	0747	40	.4	T	Y5
997 MONT	03	1037	1042	1049	S13	E03	.177	15741	3.7	12	-N		C	1042	70		DH	Y5
998 MONT	03	1128	1130	1132	S11	E08	.192	15741	4.1	4	-F		C	1130	50		E	Y5
GRP70999	03	1135+0	1136+3	1147	S34	E20	.587	15740	5.0	12	-F						DH	
MONT	03	1135	1136	1148	S34	E20	.587	15740	5.0	13	-N		C	1136	50		DH	
KANZ	03	1135	1139	1146	S34	E20	.587	15740	5.0	11	-F	1					D	
GRP71000	03	1139+0	1139+1	1145	S13	E02	.173	15741	3.6	6	-N						DH	
KANZ	03	1139	1139	1143	S14	E02	.190	15741	3.6	4	-B	1						
MONT	03	1139	1140	1147	S13	E03	.177	15741	3.7	8	-N		C	1140	70		DH	
GRP71001	03	1225>9	1237+0	1246	S33	E20	.576	15740	5.0	21	-N				45	.5	H	
KANZ	03	1225	1237	1249	S34	E20	.587	15740	5.0	24	-F	1						
CATA	03	1235	1235	1235D	S33	E21	.583	15740	5.1		-N	1	P	1235	56	1.7		
RAMY	03	1235E	1237	1243	S33	E19	.569	15740	4.9	8D	-N	2	C		33		H	
2 KANZ	03	1305	1305	1308	N26	W05	.495	15743	3.2	3	-F	1					G	Y5
	03	1312	1327	NO FLARE PATROL														
	03	1338	1422	NO FLARE PATROL														
3 MCMA	03	1440	1442	1451	S34	E18	.574	15740	5.0	11	-N		C	1442	40	.5	DH	Y5
	03	1508	1531	NO FLARE PATROL														
GRP71004	03	1535	1605+3	1655	S14	W47	.738	15733	31.1	80	-B				130	1.9		
MCMA	03	1535	1605	1658	S15	W48	.751	15733	31.0	83	1N		C	1605	125	7.0	E	
RAMY	03	1605E	1608	1652	S14	W47	.738	15733	31.1	47D	-B	2	C		142		F	
GRP71005	03	1600	1602+6	1612	N27	E64	.931	15750	8.5	12	-N				35		E	
MCMA	03	1600	1602	1611	N27	E65	.937	15750	8.5	11	-B		C	1602	50	1.5	E	
RAMY	03	1605E	1608	1613	N28	E64	.933	15750	8.5	8D	-N	2	C		17			
GRP71006	03	1719+1	1721+0	1730	S12	E01	.153	15741	3.8	11	-N				80	.8	E	
MCMA	03	1719	1721	1729	S13	W01	.170	15741	3.6	10	-N		C	1721	100	1.1	E	
RAMY	03	1720	1721	1731	S12	E03	.161	15741	3.9	11	-B	2	C		62			
7 MCMA	03	1725	1731	1735	N27	E65	.937	15750	8.6	10	-F		C	1731	30	.9	D	Y5
8 RAMY	03	1804	1806	1809	N25	E61	.910	15750	8.3	5	-N	2	C		21			Y5
GRP71009	03	1807+0	1809+2	1838	S12	E01	.153	15741	3.8	31	-B				100	1.0	EU	
RAMY	03	1807	1809	1811D	S12	E02	.156	15741	3.9	4D	-B	2	C		87			
HUAN	03	1807	1811	1840	S14	E03	.194	15741	4.0	33	-N	2	C	1811	85	.8	E	
PALE	03	1810E	1810U	1823D	S12	E01	.153	15741	3.8	13D	-B	3	C		120		U F	
MCMA	03	1818E		1836	S13	W01	.170	15741	3.7	18D	-N		C	1822	40	.4	E	
10 RAMY	03	1902	1903	1905	S12	E02	.156	15741	3.9	3	-B	3	C		25			Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP71011	03	2143	2147+5	2214D	S12	W02	.156	15741	3.8	31	-B				90	.9		
CULG	03	2143	2147	2214	S13	W03	.177	15741	3.7	31	-B		C	2147	100	1.0		
PALE	03	2149E	2152U	2255D	S12	W01	.153	15741	3.8	66D	-B	3	C		90		FDE	
12 CULG	03	2309	2315U	2334	N18	W68	.941	15751	29.9	25	-F		C	2315	40			Y5
GRP71013	04	0058+2	0104+5	0124	S12	W01	.151	15741	4.0	26	-N				60	.6	EJ	
CULG	04	0058	0109	0132	S12	W02	.154	15741	3.9	34	-N		C	0109	40	.4		
VORO	04	0100	0104	0115	S12	E00	.150	15741	4.0	15	-N		C	0104	90	.9	EJ	
14 VORO	04	0104	0105	0107	S20	E76	.969	15748	9.7	3	-N		C	0105	36		E	Y5
GRP71015	04	0218+4	0227+2	0251	S19	W22	.448	15742	2.4	33	-F						EJ	
CULG	04	0218	0229	0303	S19	W22	.448	15742	2.4	45	-N		C	0229	70	.8		
VORO	04	0222	0227	0238	S20	W22	.456	15742	2.4	16	-F		C	0227	170	1.9	EJ	
16 CULG	04	0331	0344	0356	S13	W08	.216	15741	3.5	25	-F		C	0344	20	.2		Y5
17 CULG	04	0508	0513	0525	N22	E55	.861	15750	8.3	17	-F		C	0513	60	1.2		Y5
GRP71018	04	0555	0558	0613	S13	W07	.206	15741	3.7	18	-N						E	
CULG	04	0555	0558	0613	S13	W07	.206	15741	3.7	18	-N		C	0558	40	.4		
TACH	04	0602E		0612	S13	W07	.206	15741	3.7	10D	-N		C	0604	106	1.1	E	
GRP71019	04	0712	0800	0820	N18	W78	.984	15751	29.4	68	-N				60		DG	
CULG	04	0712	0800	0830D	N19	W78	.984	15751	29.5	78D	-N		P	0800	40			
TACH	04	0759E		0809	N18	W79	.987	15751	29.4	10D	-N		C	0800	80		DG	
20 CULG	04	0729	0738	0803	S23	W60	.876	15733	30.8	34	-F		C	0738	80	1.6		Y5
21 CULG	04	0752	0800	0830D	S35	W45	.791	15739	1.0	38D	-N		C	0800	60	1.0		Y5
22 CULG	04	0807	0808	0813	S13	W08	.216	15741	3.7	6	-F		C	0808	10	.1		Y5
23 CULG	04	0827	0829U	0830D	S19	W24	.472	15742	2.6	3D	-N		P	0829	30	.3		Y5
24 RAMY	04	1145E	1150	1204D	N16	W77	.980	15751	29.7	19D	-N	2	C		39			Y5
	04	1210	1306	NO FLARE PATROL														
	04	1316	1411	NO FLARE PATROL														
25 MCMA	04	1418	1420	1425D	S15	E66	.913	15748	9.5	7D	-N		C	1420	60	1.5	E	Y5
	04	1425	1427	NO FLARE PATROL														
26 HUAN	04	1457	1459	1506	S11	E67	.919	15748	9.6	9	-F	1	C	1459	20		D	Y5
	04	1518	1523	NO FLARE PATROL														
	04	1631	1708	NO FLARE PATROL														
GRP71027	04	1948+3	1950+1	1957	N17	W85	.998	15751	29.4	9	-N							
MCMA	04	1948	1950	1955D	N17	W88	1.000	15751	29.2	7D	-N		P	1950				
HOLL	04	1951	1951	1957	N17	W82	.993	15751	29.7	6	-N	3	C					
28 CULG	04	1958E	1958E	2021	S19	W65	.908	15733	31.0	23D	?F		P	1958	110	2.8	BF	Y5
	IMP.1 NO ; HOLL																	
29 CULG	04	2021	2029	2048	N18	W08	.387	15744	4.2	27	-N		C	2029	70	.8		Y5
30 HOLL	04	2222	2222	2228	S17	E57	.844	15748	9.2	6	-N	2	C		31			Y5
31 HOLL	04	2228	2232	2244	S17	E57	.844	15748	9.2	16	-N	2	C		52		F	Y5
32 HOLL	04	2246	2257	2307	S17	E57	.844	15748	9.2	21	-N	2	C		29		F	Y5
GRP71033	05	0010+5	0018	0107D	S19	E54	.819	15748	9.1	57	?N						EIJL	
			0033															
CULG	05	0010	0033	0340	S23	E50	.789	15748	8.8	210	N		C	0033	780	13.3	IL	
	IMP.3 IMP.S																	
VORO	05	0015	0018	0022	S13	E60	.866	15748	9.5	7	-N		C	0018	90	1.7	EJ	
VORO	05	0101	0102	0107	S18	E58	.853	15748	9.4	6	-N		C	0102	90	1.7	J	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP71034	05	0100+6	0108	0130	S35	W07	.533	15740	4.5	30	-N				35	.4	J	
			0115+0															
CULG	05	0100	0115	0158	S35	W08	.536	15740	4.4	58	-F		C	0115	40	.5		
VORO	05	0106	0108	0130	S35	W07	.533	15740	4.5	24	-N		C	0108	125	1.5	EJ	
MANI	05	0114E	0115U	0130	S34	W01	.508	15740	5.0	16D	-N	3	C		30		F	
GRP71035	05	0110	0113+2	0122	S11	W12	.243	15741	4.1	12	-N						EJ	
VORO	05	0110	0113	0121	S11	W14	.272	15741	4.0	11	-N		C	0113	81	.8	EJ	
MANI	05	0114E	0115U	0123	S11	W10	.216	15741	4.3	9D	-N	3	C		25			
36 CULG	05	0216	0217	0225	N11	W03	.255	15745	4.9	9	-F		C	0217	30	.3		Y5
37 VORO	05	0257	0259	0304	S18	W70	.939	15733	30.9	7	-N		C	0259	27		D	Y5
38 CULG	05	0321	0324	0333	S31	W14	.508	15740	4.1	12	-N		C	0324	40	.5		Y5
39 CULG	05	0340	0346	0359	S15	W70	.938	15733	30.9	19	-N		C	0346	30			Y5
40 CULG	05	0508	0517	0532	N25	E24	.599	0	7.0	24	?N		C	0517	140	2.2		Y5
	IMP.1 NO : MITK																	
41 CULG	05	0606	0607	0624	N10	E45	.729	15749	8.6	18	-F		C	0607	40	.6		Y5
GRP71042	05	0706+1	0710+1	0721	S22	W50	.787	15733	1.5	15	-N				100	1.6	EJ	
CULG	05	0706	0710	0727	S22	W51	.796	15733	1.5	21	-N		C	0710	80	1.4		
ABST	05	0707	0711	0715	S23	W50	.789	15733	1.5	8	1F		P	0711	131	2.0	EJ	
43 TACH	05	0723E	0724	0729D	N16	W90	1.000	15751	29.6	6D	-B		C	0724	150		D	Y5
44 ABST	05	0747	0750	0800	S36	W10	.557	15740	4.6	13	-F		C	0750	87	1.1	D	Y5
45 KANZ	05	1058	1102	1106	N15	W04	.324	15745	5.2	8	-F	1						Y5
46 KANZ	05	1312	1312	1319	N26	E39	.742	15750	8.5	7	-B	2						Y5
47 KANZ	05	1347	1351	1402	S23	W06	.348	15746	5.1	15	1N	2					UG	Y5
	05	1406	1433	NO FLARE PATROL														
48 HUAN	05	1525		1540D	S37	W15	.591	15740	4.5	15D	-N	1	P	1531	30	.3		Y5
	05	1549	1550	NO FLARE PATROL														
	05	1555	1603	NO FLARE PATROL														
	05	1610	1824	NO FLARE PATROL														
GRP71049	05	1826	1851	2001	S35	W17	.577	15740	4.5	95	1B				220	2.7		
RAMY	05	1826	1851U	2001	S35	W18	.583	15740	4.4	95	1B	3	C		417		F	
MCMA	05	1833E		1913D	S37	W16	.596	15740	4.6	40D	1B		C	1841	175	2.2	E	
PALE	05	1836E	1836U	1930D	S35	W17	.577	15740	4.5	54D	1B	2	C		267			
50 RAMY	05	1904	1904	1910	S20	W42	.696	15742	2.6	6	-N	3	C		23			Y5
51 RAMY	05	1926	1927	1935	S16	E47	.741	15748	9.3	9	-N	2	C		68			Y5
52 CULG	05	2015	2018	2028	N18	E83	.995	15754	12.1	13	-N		C	2018	20			Y5
53 CULG	05	2020	2023	2037	S17	W52	.796	15742	1.9	17	-F		C	2023	20	.3		Y5
54 CULG	05	2029	2030	2036	N14	E87	.999	15754	12.4	7	-N		C	2030	40			Y5
55 CULG	05	2202	2220	2333	S25	W85	.995	15734	30.5	91	?N		C	2220	120			Y5
	IMP.1 NO : PALE																	
56 CULG	05	2257	2259	2307	S33	W23	.595	15740	4.2	10	-F		C	2259	20	.2		Y5
GRP71057	05	2303+6	2307+2	2320	N16	W34	.627	15744	3.4	17	-N						F	
CULG	05	2303	2307	2326	N17	W33	.622	15744	3.5	23	-N		C	2307	80	1.0		
PALE	05	2309	2309	2313	N15	W35	.633	15744	3.3	4	-N	3	C		18		F	
58 CULG	05	2307	2313	2326	N14	E80	.988	15754	12.0	19	-N		C	2313	40			Y5
59 CULG	05	2333	2336	2346	S09	W88	.999	15733	30.4	13	-N	*	C	2336	20			Y5
GRP71060	06	0005+7	0018+3	0101	S22	W53	.814	15742	2.0	56	-N				100	1.7	FU	
MITK	06	0005		0105	S21	W53	.812	15742	2.0	60	1F		C	0016	230	4.0	FU	
PALE	06	0012	0021	0056	S22	W49	.776	15742	2.3	44	-N	3	C		70		U	
MANI	06	0015E	0018	0033D	S23	W60	.875	15742	1.5	18D	-B	3	C		100		U	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
61 ABST	06	0850E	0853	0855D	N16	W42	.718	15744	3.2	5D	-F		P	0853	87	1.3	D	Y5
62 KANZ	06	0909	0943	0959	S32	W26	.608	15740	4.4	50	-F	1					E	Y5
63 KANZ	06	0955	1019	1023	N23	E85	.998	15754	12.8	28	-F	1						Y5
GRP71064	06	1111+4	1114+6	1127	N14	E70	.949	15754	11.7	16	-N				50		D	
HTPR	06	1111	1114	1122	N14	E68	.938	15754	11.6	11	-N		C	1114	30	.7		
KANZ	06	1115	1119	1129	N15	E73	.964	15754	11.9	14	-F	1					D	
LOCA	06	1115E	1120	1127	N14	E70	.949	15754	11.7	12D	-N		V	1120	51	1.8		
CATA	06	1120E	1120	1120D	N16	E70	.950	15754	11.7		-N	2	P	1120	56	1.7		
65 HTPR	06	1248	1248	1252	N10	E30	.542	15749	8.8	4	-F		C	1248	10	.1		Y5
66 KANZ	06	1317	1317	1325	N10	E27	.502	15749	8.6	8	-N	1						Y5
67 HCMA	06	1535E		1620	S13	W37	.612	15741	3.9	45D	-F		C	1546	40	.5	E	Y5
68 BIGB	06	1746	1751	1757	N17	E70	.951	15754	12.0	11	-N	3	C	1751	75		D	Y5
	06	1800	1825	NO FLARE PATROL														
69 RAMY	06	2056E	2056U	2109	S20	W56	.838	15742	2.7	13D	-N	2	C		22			Y5
70 RAMY	06	2056E	2056U	2109	S20	W78	.976	15733	1.0	13D	-B	2	C		19		F	Y5
71 RAMY	06	2056E	2111	2125D	N26	W50	.836	15755	3.1	29D	-F	*	C		32			Y5
GRP71072	06	2115>9	2115 2128	2140	N24	E24	.590	15750	8.7	25	-N							
PALE	06	2115E	2115U	2135D	N26	E24	.610	15750	8.7	20D	-N	1	C		40		F	
BIGB	06	2125	2128	2140	N22	E25	.579	15750	8.8	15	-N	3	C	2128	75		D	
	06	2125	2130	NO FLARE PATROL														
	06	0633	0643	NO FLARE PATROL														
	06	0647	0724	NO FLARE PATROL														
	06	0750	0755	NO FLARE PATROL														
73 CULG	06	2355	2357	0008	S21	E31	.571	15748	9.3	13	-F		C	2357	20	.2		Y5
GRP71074	07	0159+3	0204+3	0217	N20	E22	.531	15750	8.7	18	-N						EJ	
CULG	07	0144	0207	0225	N19	E22	.520	15750	8.7	41	-N		C	0207	100	1.2		
VORO	07	0159	0205	0217	N20	E22	.531	15750	8.7	18	1F		C	0205	242	2.9	EJ	
PALE	07	0202	0204	0211	N25	E20	.568	15750	8.6	9	-N	3	C		56		DE	
75 CULG	07	0416	0423	0503	S12	W46	.722	15741	3.7	47	-N		C	0423	80	1.1		Y5
76 CULG	07	0427	0436	0450	S21	W64	.902	15742	2.4	23	-N		C	0436	60	1.4		Y5
77 CULG	07	0544	0557	0616	N19	E18	.482	15750	8.6	32	-N		C	0557	70	.8		Y5
78 CULG	07	0555	0609	0634	S20	E30	.552	15748	9.5	39	-F		C	0609	20	.2		Y5
79 CULG	07	0623	0658U	0826	N18	E17	.460	15750	8.5	123	1N		C	0658	420	4.6	JI	Y5
80 KANZ	07	0855	0858	0906	N26	W57	.888	15755	3.1	11	-F	1					T	Y5
81 KANZ	07	0946	0949	0956	N11	W32	.575	15745	5.0	10	-F	1						Y5
82 HTPR	07	1002	1004	1010	S36	W38	.739	15740	4.6	8	-F		C	1004	20	.3		Y5
83 KANZ	07	1100	1115	1123	S13	W46	.724	15741	4.0	23	-N	1						Y5
84 RAMY	07	1159E	1313U	1314D	N26	W59	.901	15755	3.1	75D	-B	2	C		50			Y5
85 RAMY	07	1221	1221	1221D	N12	E08	.302	15749	8.1		-N	2	C		41			Y5
86 KANZ	07	1253	1257	1320	S21	W80	.983	15733	1.5	27	-N	1						Y5
87 RAMY	07	1314	1315	1328	N12	E08	.302	15749	8.2	14	-N	2	C		88			Y5
88 RAMY	07	1330	1340	1404D	N12	E07	.295	15749	8.1	34D	-N	2	C		64			Y5
89 RAMY	07	1330	1344	1442	N26	W59	.901	15755	3.1	72	-N	*	C		26			Y5
90 RAMY	07	1753	1800	1806	N12	E05	.283	15749	8.1	13	-B	3	C		43		F	Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP71091	07	1845+6	1854 1905	1925	N22	E10	.462	15750	8.5	40	-N						
RAMY	07	1845	1854	1934	N19	E10	.418	15750	8.5	49	-N	3	C		73		F
PALE	07	1851	1905	1915	N25	E11	.509	15750	8.6	24	-N	3	C		49		DE
	07	1943	1945	NO FLARE PATROL													
	07	1950	1954	NO FLARE PATROL													
92 RAMY	07	2032	2036	2039	N23	E14	.500	15750	8.9	7	-B	3	C		25		Y5
	07	2107	2118	NO FLARE PATROL													
GRP71093	07	2228+5	2233+1	2248	N22	E69	.952	15754	13.1	20	-F						
CULG	07	2228	2234	2248	N22	E68	.947	15754	13.0	20	-N		C	2234	60		
HOLL	07	2233	2233	2237D	N23	E71	.962	15754	13.3	4D	-F	2	C				
94 CULG	07	2232	2235	2240	N17	W62	.903	15744	3.3	8	-F		C	2235	30	.7	Y5
95 CULG	07	2232	2235	2254	S18	E35	.604	0	10.6	22	-F		C	2235	50	.6	G Y5
96 BIGB	07	2303E	2303U	2303D	N26	E67	.947	15754	13.0		-N	2	P				Y5
97 BIGB	07	2304E	2304	2304D	N11	E67	.929	15754	13.0		-N	2	P				Y5
98 CULG	07	2355	2359	0009	S21	E32	.582	0	10.4	14	-F		C	2359	20	.2	Y5
GRP71099	08	0223+6	0234+2 0243	0317	N17	E52	.823	15754	12.0	54	1B				260	4.5	
MITK	08	0223	0236	0317	N18	E54	.843	15754	12.1	54	1B		C	0236	270	5.1	
CULG	08	0223	0243	0358	N17	E54	.841	15754	12.1	95	1B		C	0243	260	4.7	
KODA	08	0228	0234	0257	N20	E51	.823	15754	11.9	29	2N		P	0238	783	8.1	CE
PALE	08	0229	0234	0236D	N17	E47	.775	15754	11.6	7D	1B	3	C		121		F
100 CULG	08	0314	0319	0342	S19	W88	.999	15733	1.5	28	-N		C	0319	20		Y5
101 CULG	08	0338	0345	0408	S37	W47	.812	15740	4.6	30	-F		C	0345	20	.3	Y5
102 CULG	08	0611	0626	0744	S24	W65	.911	0	3.4	93	?N		C	0626	140	3.1	GFK Y5
	IMP.1 NO : MITK																
103 CULG	08	0728	0748U	0823	S17	E14	.326	15748	9.4	55	-F		C	0748	50	.5	Y5
104 KANZ	08	0808	0812	0824	N11	E02	.258	15749	8.5	16	-F	1					Y5
GRP71105	08	0816+4	0820+5	0830	S14	W59	.857	15741	3.9	14	-F						
CULG	08	0816	0825	0832D	S14	W60	.866	15741	3.8	16D	-N		C	0825	30	.6	
KANZ	08	0820	0820	0828	S14	W59	.857	15741	3.9	8	-F	1					
106 KANZ	08	0921	0921	0925	S17	E13	.315	15748	9.4	4	-N	2					Y5
107 KANZ	08	1007	1015	1023	N17	E03	.359	15750	8.6	16	-N	2					L Y5
108 KANZ	08	1031	1034	1042	N14	E60	.884	15754	12.9	11	-N	2					Y5
109 KANZ	08	1228	1235	1243	N15	W72	.960	15744	3.1	15	-F	1					Y5
GRP71110	08	1303>9	1306	1353D	S17	E10	.283	15748	9.3	50	-F						
KANZ	08	1303	1306	1347D	S17	E11	.293	15748	9.4	44D	-F	1					
HUAN	08	1323		1353D	S17	E09	.274	15748	9.2	30D	-F	1	P	1344	30	.3	
	08	1353	1356	NO FLARE PATROL													
111 HUAN	08	1407	1407	1431	N10	W05	.253	15749	8.2	24	-N	2	C	1407	40	.4	E Y5
112 HUAN	08	1410	1411	1415	S18	E12	.316	15748	9.5	5	-F	1	C	1411	50	.5	Y5
113 HUAN	08	1442	1442	1504	N18	E46	.769	15754	12.1	22	-N	2	C	1442	80	1.3	E Y5
	08	1505	1509	NO FLARE PATROL													
114 HUAN	08	1509E		1515D	S18	E10	.297	15748	9.4	6D	-N	1	P	1510	50	.5	E Y5
	08	1515	1535	NO FLARE PATROL													
115 BIGB	08	1548E	1548	1548D	N17	E57	.866	15754	12.9		-N	1	P				Y5
116 HUAN	08	1627	1630	1631	N08	W05	.222	15749	8.3	4	-F	1	C	1630	40	.4	Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	08	1647	1648	NO FLARE PATROL													
117 HUAN	08	1730		1738	N09	W06	.244	15749	8.3	8	-F	1	C				Y5
GRP71118	08	1751+3	1757+0	1809	N11	W04	.264	15749	8.4	18	-N				50	.5	D
HUAN	08	1751	1757	1809	N10	W04	.248	15749	8.4	18	-N	1	C	1757	60	.6	
BIGB	08	1754	1757	1808	N12	W03	.277	15749	8.5	14	-N	1	P	1757	20		
MCMA	08	1755E		1802D	N11	W04	.264	15749	8.4	7D	-N		P	1756	50	.5	D
119 BIGB	08	1754	1829	1839	N18	E56	.860	15754	12.9	45	-N	1	P	1829	10		Y5
	08	1819	1939	NO FLARE PATROL													
120 BIGB	08	1843	1844	1846	S17	E19	.388	15748	10.2	3	-N	2	C	1844	10		Y5
121 BIGB	08	1919	1924	1932	N08	W04	.216	15749	8.5	13	-N	1	C	1924	60		Y5
122 BIGB	08	1954	2020	2143	N25	E80	.992	15759	14.8	109	-N	1	P	2020	15		Y5
	08	2001	2020	NO FLARE PATROL													
123 BIGB	08	2010	2030	2110	N09	W07	.252	15749	8.3	60	-N	2	C	2030	60		Y5
GRP71124	08	2025>9	2135	2145D	N15	W79	.986	15744	2.9	80	-N						
BIGB	08	2025	2151	2223	N15	W80	.989	15744	2.9	118	-N	2	C	2151	25		
CULG	08	2130	2135	2145	N16	W79	.986	15744	3.0	15	-N		C	2135	40		
125 BIGB	08	2035	2133	2147	N15	E54	.836	15754	12.9	72	-N	2	C	2133	60		Y5
	08	2112	2116	NO FLARE PATROL													
GRP71126	08	2118>9	2135+1 2153	2155D	N09	W08	.260	15749	8.3	37	-F				70	.7	
BIGB	08	2118	2135	2143	N09	W07	.252	15749	8.4	25	-N	2	C	2135	60		
CULG	08	2131	2136	2155	N10	W10	.293	15749	8.1	24	-F		C	2136	80	.8	
BIGB	08	2145	2153	2227	N07	W06	.214	15749	8.5	42	-N	1	C	2153	120		
127 CULG	08	2222	2225	2250	S36	W61	.903	15740	4.4	28	-N		C	2225	60	1.3	Y5
GRP71128	08	2232+0	2236+2	2255	N15	W79	.986	15744	3.0	23	-N				35		
CULG	08	2232	2238	2255	N16	W79	.986	15744	3.0	23	-N		C	2238	40		
BIGB	08	2232	2236	2254	N15	W80	.989	15744	2.9	22	-N	1	C	2236	25		
129 BIGB	08	2305	2315	2335	N07	W06	.214	15749	8.5	30	-N	1	C	2315	120		Y5
130 BIGB	08	2307	2330	2350	N16	E53	.829	15754	12.9	43	-N	3	C	2330	30		Y5
131 CULG	08	2332	2338	0000	S18	W90	1.000	15742	2.2	28	-N		C	2338	40		Y5
132 CULG	09	0005	0012	0026	N13	E52	.812	15754	12.9	21	-F		C	0012	80	1.4	Y5
133 CULG	09	0100	0131	0316	N18	W08	.395	15750	8.4	136	?N		C	0131	300	3.3	S Y5
	IMP.1 NO : MITK																
134 CULG	09	0124	0129	0139	N27	E75	.980	15759	14.7	15	-F		C	0129	20		T Y5
135 CULG	09	0125	0127	0135	S32	W68	.936	15740	4.0	10	-N		C	0127	40	1.0	Y5
136 CULG	09	0134	0138	0150	N17	E41	.714	15754	12.1	16	-F		C	0138	40	.6	Y5
137 CULG	09	0311	0315	0345	N18	W85	.998	15744	2.8	34	? N		C	0315	80		T Y5
	IMP.1 NO : MITK VCRO																
138 CULG	09	0333	0336	0339	S31	W69	.940	15740	4.0	6	-F		C	0336	40	1.0	Y5
139 CULG	09	0344	0350	0426	N09	W11	.291	15749	8.3	42	-N		C	0350	80	.8	T Y5
140 CULG	09	0419	0425	0440	S22	E88	.998	15762	15.8	21	-F		C	0425	40		G Y5
141 ABST	09	0558E	0607	0610	N14	E49	.786	15754	12.9	12D	-N		P	0607	87	1.5	DJ Y5
GRP71142	09	0610+4	0615+1	0627	N18	W87	1.000	15744	2.7	17	? N						EJ
CULG	09	0610	0615	0630	N19	W85	.998	15744	2.9	20	N		C	0615	40		
	IMP.S IMP.2																
ABST	09	0614	0616	0624	N18	W89	1.000	15744	2.6	10	2N		C	0616	218		EJ
143 ABST	09	0721	0725	0745	N15	E35	.636	15754	11.9	24	-N		C	0725	87	1.2	D Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
144 ABST	09	0729	0732	0740	S17	E02	.229	15748	9.5	11			C	0732	174	1.8	EJ	Y5
145 KAND	09	0844	0845	0855	N21	W85	.998	15744	3.0	11	-N		C					Y5
146 ABST	09	0903	0905	0906D	N14	E49	.786	15754	13.1	3D	-N		P	0905	87	1.5	DJ	Y5
147 KAND	09	0907	0908	0912	N15	E46	.758	15754	12.8	5	-F		C		73	1.1		Y5
148 KAND	09	0920	0926	0941	N25	W90	1.000	15755	2.6	21	-N		C					Y5
149 KAND	09	0936	0952	0952D	N18	W85	.998	15744	3.0	16D	2N		C					Y5
GRP71150	09	1528	1533 1538	1547	N18	E40	.708	15754	12.6	19	-N						F	
RAMY	09	1528	1533	1546	N15	E39	.682	15754	12.6	18	-N	3	C		119		F	
RAMY	09	1531	1538	1547	N22	E42	.750	15754	12.8	16	-N	3	C		83		F	
151 RAMY	09	1539	1541	1551	N09	W18	.376	15749	8.3	12	-N	3	C		32			Y5
152 RAMY	09	1625	1627	1632	N09	W19	.389	15749	8.3	7	-N	3	C		40		F	Y5
153 RAMY	09	1634	1634	1639	N09	W19	.389	15749	8.3	5	-N	3	C		23			Y5
154 HUAN	09	1636	1639	1647	N30	W23	.648	0	8.0	11	-F	1	C	1639	35	.4	E	Y5
155 RAMY	09	1752	1753	1802	S34	W68	.938	15740	4.6	10	-B	3	C		17			Y5
156 RAMY	09	1755	1756	1804	N09	W20	.403	15749	8.2	9	-B	3	C		27			Y5
GRP71157	09	1906+2	1910+2	1917	N08	W20	.395	15749	8.3	11	-N				60	.7		
RAMY	09	1906	1912	1917	N09	W20	.403	15749	8.3	11	-B	2	C		57		F	
HUAN	09	1908	1910	1916	N08	W21	.408	15749	8.2	8	-F	1	C	1910	65	.7	E	
158 HUAN	09	1919		1927D	N10	W17	.373	15749	8.5	8D	-F	1	P	1923	40	.4	E	Y5
GRP71159	09	2008>9	2009 2026	2042	S34	W69	.942	15740	4.7	34	-N						F	
RAMY	09	2008	2009	2053D	S34	W70	.947	15740	4.6	45D	-B	2	C		35		F	
HOLL	09	2024	2026	2031	S35	W69	.943	15740	4.7	7	-N	2	C		39			
GRP71160	09	2023+1	2025+6	2043	N08	W19	.381	15749	8.4	20	-N				50	.5	F	
RAMY	09	2023	2031	2053D	N09	W21	.416	15749	8.3	30D	-B	2	C		47		F	
HOLL	09	2024	2025	2032	N08	W18	.367	15749	8.5	8	-N	2	C		47			
	09	2137	2142	NO FLARE PATROL														
	09	2157	2212	NO FLARE PATROL														
	09	2217	2221	NO FLARE PATROL														
161 CULG	09	2221E	2233U	2250D	S30	W60	.885	0	5.4	29D	-N		P	2233	80	1.7		Y5
162 CULG	09	2230	2245	2250D	S38	W71	.955	15740	4.6	20D	-N		P	2245	60			Y5
163 CULG	10	0032	0041	0125	S18	W21	.420	15748	8.4	53	-N		C	0041	100	1.1	L	Y5
164 CULG	10	0039	0053	0104	S22	E88	.998	15762	16.6	25	-N		C	0053	20			Y5
165 CULG	10	0258	0300	0306	S12	W81	.986	15741	4.0	8	-N		C	0300	10			Y5
166 CULG	10	0510	0513	0521	S27	E58	.864	15763	14.6	11	-N		C	0513	40	.9		Y5
167 CULG	10	0515	0519	0529	S17	W12	.301	15748	9.3	14	-N		C	0519	30	.4		Y5
168 CULG	10	0526	0528	0538	N18	E33	.633	15754	12.7	12	-F		C	0528	60	.8		Y5
169 ABST	10	0611	0616	0625	N16	E37	.665	15754	13.0	14	-N		C	0616	87	1.2	D	Y5
170 ABST	10	0646	0649	0700	N08	W28	.506	15749	8.2	14	1N		C	0649	174	2.1	UJ	Y5
GRP71171	10	0721+4	0723	0733	N16	E36	.654	15754	13.0	12	-N						D	
CULG	10	0721	0723	0733	N15	E36	.648	15754	13.0	12	-N		C	0723	80	1.0		
ISTA	10	0725		0732	N18	E36	.666	15754	13.0	7	-N						D	
172 ISTA	10	0840		0846	N08	W29	.520	15749	8.2	6	-F						D	Y5
173 HTPR	10	0956	1001	1005	N08	W34	.588	15749	7.9	9	-F		C	1001	10	.2		Y5
174 HTPR	10	1107	1109	1126	N16	E31	.597	15754	12.8	19	-N		C	1109	70	.8	E	Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
175 HUAN	10	1437		1455	N08	W34	.588	15749	8.1	18	-F	1	C				Y5
176 RAMY	10	1453	1454	1504D	N17	E13	.417	15754	11.6	11D	-N	3	C		44		F Y5
177 RAMY	10	1546	1546	1603	N08	W33	.574	15749	8.2	17	-B	3	C		24		F Y5
GRP71178	10	1616	1621	1653	N08	W34	.588	15749	8.1	37	-N				40	.5	
RAMY	10	1616	1621	1649	N08	W33	.574	15749	8.2	33	-B	3	C		117		
MCMA	10	1618E		1659D	N09	W35	.605	15749	8.1	41D	-N		C	1626	30	.4	D
HUAN	10	1623E		1656D	N08	W35	.601	15749	8.1	33D	-N	2	P	1623	45	.5	E
HOLL	10	1628E	1628U	1634	N09	W31	.552	15749	8.4	6D	-N	2	C		30		F
179 RAMY	10	1754	1758	1804	N08	W33	.574	15749	8.3	10	-N	3	C		30		F Y5
GRP71180	10	1845+6	1851+1	1927	N09	W35	.605	15749	8.2	42	-N				60	.8	E
BIGB	10	1845	1852	1918	N15	W37	.660	15749	8.0	33	-N	2	C	1852	50		
MCMA	10	1848E	1852	1915D	N09	W35	.605	15749	8.2	27D	-N		C	1852	80	1.1	E
RAMY	10	1849	1851	2020D	N08	W34	.588	15749	8.2	91D	-B	2	C		57		
HOLL	10	1851	1851	1924	N09	W33	.579	15749	8.3	33	-B	2	C		36		
HUAN	10	1911E		1929	N08	W37	.627	15749	8.0	18D	-F	1	P	1914	45	.6	
181 BIGB	10	1943	1956	1959	S23	E70	.940	15762	16.1	16	?N	2	C	1956	120		Y5
	IMP.1 NO : HUAN HOLL																
182 BIGB	10	1954	1959	2009	S15	E36	.603	0	13.5	15	-N	2	C	1959	30		Y5
183 BIGB	10	2025	2036	2037	S23	E70	.940	15762	16.1	12	?N	2	C	2036	100		Y5
	IMP.1 NO : HOLL CULG HUAN																
GRP71184	10	2039+2	2044 2051+1	2101	S23	E64	.903	15762	15.7	22	-F				30		D
BIGB	10	2039	2044	2057	S24	E64	.904	15762	15.7	18	-N	3	C	2044	25		
BIGB	10	2040	2052	2102	S24	E63	.897	15762	15.6	22	-N	2	C	2052	25		
HUAN	10	2041	2051	2059	S23	E64	.903	15762	15.7	18	-F	1	C	2051	25	.5	D
GRP71185	10	2054+1	2059+3	2113	N09	W37	.631	15749	8.1	19	-N				50	.6	
BIGB	10	2035	2102	2145	N15	W37	.660	15749	8.1	70	-N	*	C	2102	40		
HUAN	10	2054		2113D	N08	W38	.640	15749	8.0	19D	-N	*	P	2106	40	.5	
CULG	10	2055	2059	2107	N09	W35	.605	15749	8.2	12	-N	*	C	2059	60	.8	
GRP71186	10	2055+1	2059+2	2110D	S18	W15	.346	15748	9.7	15	-F						
CULG	10	2055	2059	2110	S18	W15	.346	15748	9.7	15	-F		C	2059	20	.2	
BIGB	10	2056	2101	2143	S19	W16	.369	15748	9.7	47	-N	1	C	2101	130		
GRP71187	10	2055+4	2116+4	2126D	N20	E15	.472	15754	12.0	31	-N				100	1.1	E
CULG	10	2055	2120	2208	N20	E15	.472	15754	12.0	73	-N	*	C	2120	120	1.4	
HUAN	10	2056		2113D	N20	E15	.472	15754	12.0	17D	-N	*	P	2109	160	1.8	E
BIGB	10	2059	2116	2126	N03	E17	.315	15754	12.1	27	-N	*	C	2116	80		
188 BIGB	10	2125	2135	2143	S23	E63	.896	15762	15.6	18	-N	3	C	2135	20		Y5
GRP71189	10	2156+1	2157+6	2214	S15	W16	.329	15748	9.7	18	-N				25	.3	
BIGB	10	2156	2157	2209	S12	W16	.304	15748	9.7	13	-N	3	C	2157	30		
CULG	10	2157	2203	2218	S19	W17	.380	15748	9.6	21	-N		C	2203	20	.2	
GRP71190	10	2159	2200 2204	2209	S22	E64	.902	15762	15.7	10	-N						
BIGB	10	2159	2200	2203	S23	E66	.916	15762	15.9	4	-N	3	C	2200	65		
BIGB	10	2201	2204	2209	S22	E62	.888	15762	15.6	8	-N	3	C	2204	20		
191 CULG	10	2233	2242	2253	S37	W90	.999	15740	4.2	20	-N		C	2242	40		Y5
192 BIGB	10	2247	2300	2309	S23	E61	.881	15762	15.5	22	-N	3	C	2300	30		Y5
193 CULG	10	2314	2316	2322	N19	E05	.399	15754	11.3	8	-N		C	2316	30	.3	Y5
GRP71194	10	2337+1	2343+0	2352	N10	W37	.635	15749	8.2	15	-N						E
BIGB	10	2337	2343	2352	N16	W37	.665	15749	8.2	15	-N	3	C	2343	65		
CULG	10	2338	2343	2353	N10	W35	.610	15749	8.4	15	-N		C	2343	40	.5	
VORO	10	2343E		2350	N08	W38	.640	15749	8.1	7D	1F		P	2345	242	3.1	E
195 BIGB	10	2352	2358	2358D	S23	E60	.874	15762	15.5	6D	-N	2	P	2358	20		Y5
GRP71196	11	0033+0	0035+1	0053	S19	W18	.391	15748	9.7	20	-F						E
VORO	11	0033	0036	0047	S19	W18	.391	15748	9.7	14	-N		C	0036	90	1.0	E
CULG	11	0033	0035	0059	S19	W18	.391	15748	9.7	26	-F		C	0035	20	.2	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONQ	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.		
GRP71197	11	0057+0	0103+1	0116D	S24	E60	.875	15762	15.5	19	1F				110	2.3	E	
CULG	11	0057	0104	0212	S25	E60	.876	15762	15.5	75	1N		C	0104	110	2.3		
VORO	11	0057	0103	0116	S24	E61	.882	15762	15.6	19	1F		C	0103	116	2.3	E	
198 VORO	11	0249	0251	0256	S19	W19	.403	15748	9.7	7	-F		C	0251	54	.6	EJ	Y5
199 VORO	11	0302	0303	0307	S19	W19	.403	15748	9.7	5	-N		C	0303	72	.8	EJ	Y5
200 CULG	11	0522	0538	0627	N15	E23	.496	15754	12.9	65	-N		C	0538	130	1.5		Y5
201 CULG	11	0559	0606	0619	S27	E58	.864	15762	15.6	20	-F		C	0606	60	1.2		Y5
202 ABST	11	0637E	0639	0652	N24	W55	.870	15766	7.2	15D	-N		P	0639	87	1.7	D	Y5
GRP71203	11	0646+0	0648+1	0703	S18	W22	.432	15748	9.6	17	-N				100	1.1	DJ	
ABST	11	0646	0648	0652	S18	W22	.432	15748	9.6	6	-N		C	0648	131	1.4	DJ	
CULG	11	0646	0649	0714	S18	W22	.432	15748	9.6	28	-N		C	0649	70	.8		
GRP71204	11	0657+0	0658+1	0702	N15	E22	.485	15754	12.9	5	-F						DV	
ABST	11	0657	0658	0700	N16	E22	.495	15754	12.9	3	-N		C	0658	87	1.0	DV	
CULG	11	0657	0659	0704	N15	E23	.496	15754	13.0	7	-F		C	0659	20	.2		
GRP71205	11	0739+1	0741+7	0818	S19	W25	.478	15748	9.4	39	1B				310	3.5	FVZ	
ABST	11	0740	0741	0812	S20	W21	.437	15748	9.7	32	1N		C	0741	261	2.9	EV	
ABST	11	0740	0741	0812	S18	W30	.537	15748	9.1	32	1N		C	0741	174	2.1	FV	
MANI	11	0743E	0748	0751D	S19	W26	.491	15748	9.4	8D	1B	3	C		220		Z F	
206 MANI	11	0746E	0748	0802D	N09	W41	.681	15749	8.2	16D	?B	3	V		150		Z F	Y5
	IMP.1 NO 3 CULG ABST																	
207 CULG	11	0816	0820	0828	S17	W39	.647	15748	8.4	12	-N		C	0820	60	.8	U	Y5
	11	1115	1200	NO FLARE PATROL														
208 RAMY	11	1200E	1200U	1220	N15	E15	.410	15754	12.6	20D	-N	3	C		32			Y5
209 RAMY	11	1203	1203	1218	S24	E54	.825	15762	15.6	15	-N	3	C		32			Y5
210 RAMY	11	1219	1219	1236	S24	E57	.851	15762	15.8	17	-N	3	C		22			Y5
211 RAMY	11	1219	1239	1334	S18	W28	.511	15748	9.4	75	-B	3	C		152		DE	Y5
	11	1228	1240	NO FLARE PATROL														
	11	1251	1302	NO FLARE PATROL														
212 RAMY	11	1305	1306	1337	N15	E14	.401	15754	12.6	32	-N	3	C		22			Y5
	11	1313	1330	NO FLARE PATROL														
GRP71213	11	1405+1	1406+1	1417	N08	W47	.748	15749	8.1	12	-F				70	1.0	E	
MCMA	11	1405	1406	1415	N08	W47	.748	15749	8.1	10	-N		C	1406	80	1.3	E	
HUAN	11	1406	1407	1418	N08	W47	.748	15749	8.1	12	-F	1	C	1407	65	1.0	E	
214 HUAN	11	1421	1423	1426	N18	E04	.382	15754	11.9	5	-F	1	C	1423	25	.3	D	Y5
GRP71215	11	1425+4	1431 1438+2	1455	N15	E19	.451	15754	13.0	30	-N				60	.7	EK	
MCMA	11	1425E	1440	1448	N17	E19	.473	15754	13.0	23D	-N		C	1440	80	.9	E	
HUAN	11	1428	1438	1519	N15	E19	.451	15754	13.0	51	-N	1	C	1438	50	.5	EK	
RAMY	11	1429	1431	1455	N15	E13	.392	15754	12.6	26	-B	2	C		61			
GRP71216	11	1438+1	1446+1	1459	N06	W48	.755	15749	8.0	21	-N				80	1.2	E	
MCMA	11	1438	1446	1500D	N08	W47	.748	15749	8.1	22D	-N		C	1446	100	1.6	E	
HUAN	11	1439	1447	1457	N05	W50	.775	15749	7.9	18	-N	2	C	1447	60	.9		
217 HUAN	11	1532	1538	1548	N07	W48	.757	15749	8.0	16	-F	1	C	1538	115	1.8	E	Y5
GRP71218	11	1553+3	1601	1606D	N15	E14	.401	15754	12.7	13	-N						E	
HUAN	11	1553		1648D	N16	E16	.432	15754	12.9	55D	-F	1	C	1621	35	.4	E	
RAMY	11	1556	1601	1606	N15	E13	.392	15754	12.6	10	-B	3	C		21			
GRP71219	11	1555+2	1556+2	1600	S19	W26	.491	15748	9.7	5	-N				40	.5	E	
MCMA	11	1555	1556	1600D	S19	W26	.491	15748	9.7	5D	-F		C	1556	50	.6	E	
HUAN	11	1557	1558	1600	S19	W26	.491	15748	9.7	3	-F	1	C	1558	40	.4		
RAMY	11	1557	1557	1600	S18	W30	.537	15748	9.4	3	-B	3	C		25			

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP71220	11	1607+1	1608+0	1614	S19	W27	.504	15748	9.6	7	-N				30	.3	D	
MCMA	11	1607	1608	1614	S19	W26	.491	15748	9.7	7	-F		C	1608	25	.3	D	
HUAN	11	1607	1608	1612	S20	W27	.511	15748	9.6	5	-N	1	C	1608	40	.4		
HUAN	11	1607	1608	1614	S20	W28	.523	15748	9.6	7	-F	1	C	1608	30	.3		
RAMY	11	1608	1608	1612	S18	W30	.537	15748	9.4	4	-B	3	C		24			
221 MCMA	11	1658	1700	1710	N17	E17	.454	15754	13.0	12	-F		C	1700	50	.6	E	Y5
GRP71222	11	1738+1	1742+1	1752	N08	W48	.759	15749	8.1	14	-N				60	.9	E	
MCMA	11	1738	1743	1755	N09	W50	.783	15749	8.0	17	-N		C	1743	65	1.1	E	
RAMY	11	1739	1742	1748	N08	W46	.737	15749	8.3	9	-N	3	C		50			
223 MCMA	11	1832		1840D	N17	E17	.454	15754	13.0	8D	-F		P	1839	35	.4	D	Y5
224 RAMY	11	1841	1842	1918	N15	E11	.375	15754	12.6	37	-B	3	C		68			Y5
225 RAMY	11	1925	1926	1933	N15	E11	.375	15754	12.6	8	-N	3	C		22			Y5
GRP71226	11	1956+1	1957+1	2002	N08	W48	.759	15749	8.2	6	-N				40	.6	E	
HUAN	11	1956	1958	2000	N07	W48	.757	15749	8.2	4	-N	1	C	1958	40	.6		
MCMA	11	1957	1958	2004	N08	W50	.781	15749	8.1	7	-N		C	1958	50	.8	E	
RAMY	11	1957	1957	1959D	N08	W48	.759	15749	8.2	2D	-N	3	C		18			
GRP71227	11	2029>9	2046+2 2059	2124	N16	E15	.423	15754	13.0	55	-N				80	.9	H	
CULG	11	2029	2059	2125	N16	E15	.423	15754	13.0	56	-F		C	2059	160	1.8		
HUAN	11	2035	2048	2104	N16	E16	.432	15754	13.1	29	-N	2	C	2048	60	.7		
RAMY	11	2041	2046	2111	N15	E10	.367	15754	12.6	30	-B	3	C		103		H	
RAMY	11	2122	2123	2124	N15	E10	.367	15754	12.6	2	-N	2	C		24			
	11	2146	2159	NO FLARE PATROL														
228 CULG	11	2213	2216	2224	S28	E23	.536	15757	13.7	11	-F		C	2216	20	.2		Y5
229 BIGB	11	2227	2235	2244	N17	E02	.362	15754	12.1	17	-N	3	C	2235	140		EK	Y5
	11	2243	2254	NO FLARE PATROL														
230 CULG	11	2337	2343	2356	S27	E49	.788	15762	15.7	19	-F		C	2343	40	.6		Y5
GRP71231	12	0018+2	0020+3	0027	N08	W51	.791	15749	8.2	9	1F				130	2.1	EJ	
CULG	12	0018	0020	0028	N09	W52	.804	15749	8.1	10	-N		C	0020	60	1.0		
CULG	12	0018	0019	0028	N09	W51	.794	15749	8.2	10	-F		C	0019	30	.5		
VORO	12	0020	0023	0026	N08	W50	.781	15749	8.3	6	1F		C	0023	179	2.9	EJ	
GRP71232	12	0025+1	0028+2	0049D	S18	W34	.588	15748	9.5	24	1B				280	3.5	JUVZ	
CULG	12	0025	0028	0140	S19	W32	.567	15748	9.6	75	1B		C	0028	360	4.5	VF	
VORO	12	0026	0030	0049	S18	W34	.588	15748	9.5	23	1N		C	0030	287	3.6	EJ	
MANI	12	0028E	0030	0035D	S18	W37	.625	15748	9.2	7D	1B	3	V		180		U Z	
233 CULG	12	0114	0121	0132	S25	W16	.436	15764	10.9	18	-F		C	0121	40	.4		Y5
GRP71234	12	0303+1	0305+1	0311	N15	E12	.384	15754	13.0	8	-F				60	.6	E	
CULG	12	0303	0306	0312	N15	E12	.384	15754	13.0	9	-F		C	0306	40	.4	T	
VORO	12	0304	0305	0310	N16	E12	.398	15754	13.0	6	-N		C	0305	81	.9	E	
235 CULG	12	0421	0423	0428	N15	W02	.331	15754	12.0	7	-F		C	0423	40	.4		Y5
236 CULG	12	0449	0450	0503	S28	E47	.772	15762	15.7	14	-N		C	0450	50	.8		Y5
237 CULG	12	0514	0519	0527	S24	E15	.415	15757	13.3	13	-F		C	0519	40	.4		Y5
238 CULG	12	0550	0552	0609	N23	W52	.844	15750	8.3	19	-F		C	0552	60	1.1		Y5
239 CULG	12	0740	0745	0757	N14	E08	.340	15754	12.9	17	-F		C	0745	30	.3	T	Y5
GRP71240	12	0842+3	0844+1	0849	S25	E44	.732	15762	15.7	7	-F				30	.4		
HTPR	12	0842	0844	0847	S26	E44	.736	15762	15.7	5	-F		C	0844	30	.4		
CATA	12	0845	0845	0850	S25	E45	.742	15762	15.7	5	-N	2	C	0845	28	1.8		
241 HTPR	12	1004	1007	1013	N16	E07	.365	15754	12.9	9	-F		C	1007	30	.3		Y5
GRP71242	12	1033+3	1036+1	1046	N16	E08	.370	15754	13.0	13	-N							
HTPR	12	1033	1037	1047	N16	E09	.376	15754	13.1	14	-N		C	1037	60	.6		
KANZ	12	1036	1036	1045	N16	E07	.365	15754	13.0	9	-B	2						

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP71243	12	1045+2	1049	1137	S16	W39	.644	15748	9.5	52	-B						U
			1108+1														
KANZ	12	1045	1108	1141	S16	W38	.631	15748	9.6	56	1B	2					U
HTPR	12	1047	1049	1055	S17	W40	.659	15748	9.4	8	-F		C	1049	20	.3	
HTPR	12	1102	1109	1133	S17	W40	.659	15748	9.5	31	-N		C	1109	150	2.0	
244 KANZ	12	1211	1216	1221	N16	E07	.365	15754	13.0	10	-F	1					E Y5
GRP71245	12	1231+2	1234+1	1240	S16	W40	.656	15748	9.5	9	-N						
KANZ	12	1231	1234	1240	S16	W40	.656	15748	9.5	9	-B	1					
HTPR	12	1233	1235	1239	S17	W41	.671	15748	9.4	6	-N		C	1235	50	.7	
246 HTPR	12	1322	1323	1325	S18	E17	.368	0	13.8	3	-F		C	1323	30	.3	Y5
GRP71247	12	1327+2	1330+2	1347	N15	E06	.344	15754	13.0	20	-N						EL
HTPR	12	1327	1332	1338	N16	E07	.365	15754	13.1	11	-F		C	1332	30	.3	E
RAMY	12	1328	1330	1349	N15	E01	.330	15754	12.6	21	-B	3	C		75		
KANZ	12	1329	1332	1347	N15	E06	.344	15754	13.0	18	-N	1					L
GRP71248	12	1350+0	1354+1	1404	S16	W41	.668	15748	9.5	14	-N						
HTPR	12	1350	1355	1400	S17	W42	.683	15748	9.4	10	-F		C	1355	30	.4	
KANZ	12	1350	1354	1407	S16	W41	.668	15748	9.5	17	-B	1					
249 RAMY	12	1415	1425	1430	N15	E00	.329	15754	12.6	15	-N	3	C		28		Y5
GRP71250	12	1512	1513	1551	S17	W43	.695	15748	9.4	39	-N				50	.7	E
			1529+3														
HUAN	12	1512	1513	1522	S18	W42	.686	15748	9.5	10	-F	1	C	1513	45	.6	
MCHA	12	1513E	1529	1549D	S17	W43	.695	15748	9.4	36D	-N		C	1529	60	.9	E
HUAN	12	1526	1532	1551	S18	W45	.720	15748	9.3	25	-N	2	C	1532	40	.5	
GRP71251	12	1518+2	1521+0	1536	N16	E04	.352	15754	12.9	18	-F				80	.9	E
MCHA	12	1518	1521	1539D	N16	E04	.352	15754	12.9	21D	-F		C	1521	90	1.0	E
HUAN	12	1520	1521	1532	N17	E04	.368	15754	12.9	12	-F	1	C	1521	65	.7	E
252 HUAN	12	1619	1624	1633	S17	W43	.695	15748	9.5	14	-N	2	C	1624	90	1.2	Y5
253 HUAN	12	1622	1625	1627	N16	E04	.352	15754	13.0	5	-F	1	C	1625	30	.3	Y5
GRP71254	12	1628+0	1629	1639	N15	E01	.330	15754	12.8	11	-F						H
			1638														
HUAN	12	1628	1638	1645	N15	E04	.336	15754	13.0	17	-F	1	C	1638	25	.3	D
RAMY	12	1628	1629	1633	N15	W01	.330	15754	12.6	5	-F	3	C		27		F H
255 HUAN	12	1716	1717	1718	S19	W43	.701	15748	9.5	2	-F	1	C	1717	40	.5	Y5
256 RAMY	12	1746	1746	1751	N15	W02	.331	15754	12.6	5	-N	3	C		20		FDE Y5
257 RAMY	12	1817	1817	1825	N15	W02	.331	15754	12.6	8	-B	3	C		27		FDE Y5
258 RAMY	12	1841	1841	1846	S18	W44	.709	15748	9.5	5	-B	3	C		22		FDE Y5
259 RAMY	12	2000	2000	2009	N17	W17	.455	15754	11.6	9	-N	3	C		23		Y5
GRP71260	12	2017+7	2026+1	2031	S18	W44	.709	15748	9.5	14	-N				40	.6	
BIGB	12	2017	2026	2029	S18	W44	.709	15748	9.5	12	-N	2	C	2026	40		
CULG	12	2021	2026	2031	S16	W44	.704	15748	9.5	10	-F		C	2026	80	1.1	
RAMY	12	2024	2027	2033	S18	W45	.720	15748	9.5	9	-B	3	C		27		
261 CULG	12	2024	2029	2052	N15	E04	.336	15754	13.2	28	-F		C	2029	90	1.0	Y5
262 CULG	12	2031	2035	2049	S16	W45	.716	15748	9.5	18	-F		C	2035	90	1.3	Y5
GRP71263	12	2100	2114+0	2124	N17	W16	.446	15754	11.7	24	-N				130	1.4	
CULG	12	2100	2114	2124	N16	W22	.496	15754	11.2	24	-F		C	2114	70	.8	
RAMY	12	2111E	2114	2123D	N17	W17	.455	15754	11.6	12D	-B	2	C		141		FDE
CULG	12	2111	2113	2124	N18	W10	.412	15754	12.1	13	-N		C	2113	60	.7	
BIGB	12	2112	2114	2123	N19	W10	.426	15754	12.1	11	-N	3	C	2114	130		
GRP71264	12	2133+5	2142	2236	N16	E02	.347	15754	13.0	63	-F						F
			2205+8														
BIGB	12	2133	2142	2143	N16	E01	.346	15754	13.0	10	-N	3	C	2141	60		
CULG	12	2138	2213	2239	N16	E03	.349	15754	13.1	61	-F		C	2213	100	1.1	F
BIGB	12	2150	2205	2207	N17	E02	.364	15754	13.1	17	-N	3	C	2205	65		
BIGB	12	2208	2209	2211	N17	E02	.364	15754	13.1	3	-N	3	C	2209	65		
BIGB	12	2214	2226	2233	N16	E02	.347	15754	13.1	19	-N	3	C	2226	40		

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP71265	12	2138>9	2157+0	2207	S16	W45	.716	15748	9.5	29	-N				70	1.0	
CULG	12	2138	2157	2209	S16	W45	.716	15748	9.5	31	-B		C	2157	70	1.0	
BIGB	12	2153	2157	2205	S17	W46	.729	15748	9.5	12	-N	2	C	2157	65		
GRP71266	12	2237>9	2255+0	2304	N15	W23	.497	15754	11.2	27	-F						
CULG	12	2237	2255	2307	N15	W23	.497	15754	11.2	30	-F	*	C	2255	120	1.4	
BIGB	12	2253	2255	2300	N16	W23	.507	15754	11.2	7	-N	*	C	2255	50		
GRP71267	12	2248+3	2254+3	2313	N14	E01	.313	15754	13.0	25	-F				60	.6	F
BIGB	12	2248	2254	2301	N15	E01	.330	15754	13.0	13	-N	*	C	2254	65		
CULG	12	2251	2257	2325	N13	E02	.298	15754	13.1	34	-F	*	C	2257	60	.6	F
268 CULG	12	2340	2345	2354	S25	E40	.690	15762	16.0	14	-N		C	2345	10	.1	Y5
	13	0137	0145	NO FLARE PATROL													
	13	0036	0041	NO FLARE PATROL													
GRP71269	13	0300>9	0315	0323D	N15	W02	.333	15754	13.0	23	-N						HJ
CULG	13	0300	0338U	0400	N15	W03	.335	15754	12.9	60	-N		C	0338	80	.9	FT
VORO	13	0313	0315	0323	N16	W02	.349	15754	13.0	10	-N		C	0315	72	.8	EHJ
GRP71270	13	0306+0	0308+1	0316	S12	W41	.659	15748	10.1	10	-N				50	.7	D
CULG	13	0306	0309	0318	S12	W42	.672	15748	10.0	12	-B		C	0309	30	.4	
VORO	13	0306	0308	0313	S13	W41	.661	15748	10.1	7	-N		C	0308	72	1.0	D
271 CULG	13	0356	0359	0403	N18	W25	.549	15754	11.3	7	-N	*	C	0359	40	.5	Y5
GRP71272	13	0651>9	0708+1	0725	N16	W02	.349	15754	13.1	34	-N				100	1.1	J
CULG	13	0651	0708	0727	N17	W03	.367	15754	13.1	36	-N		C	0708	80	.9	T
ABST	13	0704	0709	0725	N16	W02	.349	15754	13.1	21	-N		C	0709	131	1.4	EJ
MANI	13	0711E	0711U	0715	N13	W02	.300	15754	13.1	40	-B	3	C		75		F
273 CULG	13	0731	0738	0808	N16	W05	.357	15754	12.9	37	-N		C	0738	80	.9	FT Y5
GRP71274	13	0832	0845+3	0913	N15	W08	.357	15754	12.8	41	-N				110	1.2	EK
MONT	13	0832	0848	0920	N16	W07	.366	15754	12.8	48	-N		C	0848	110		EK
CATA	13	0845E	0845	0905	N14	W12	.372	15754	12.5	20D	-B	2	P	0845	56	2.0	
CATA	13	0845E	0845	0855	N16	W05	.357	15754	13.0	10D	-N	2	P	0845	56	1.9	
275 MONT	13	1003	1009	1014	S13	W47	.734	15748	9.9	11	-F		C	1009	50		E Y5
GRP71276	13	1003+1	1006+2	1014	N14	W12	.372	15754	12.5	11	-N				110	1.2	E
HTPR	13	1003	1006	1016	N14	W13	.381	15754	12.4	13	-N	*	C	1006	80	.8	E
MONT	13	1004	1008	1012	N14	W11	.364	15754	12.6	8	-B	*	C	1008	150		
277 HTPR	13	1046	1050	1102	S25	E30	.580	15762	15.7	16	-F		C	1050	40	.5	E Y5
GRP71278	13	1059+5	1105+3	1119	N15	W09	.363	15754	12.8	20	1N				230	2.5	
HTPR	13	1059	1105	1116	N15	W10	.370	15754	12.7	17	1N		C	1105	220	2.3	EF
MONT	13	1104	1108	1121	N15	W09	.363	15754	12.8	17	1B		C	1108	250		
GRP71279	13	1144+1	1149+8 1204	1213	N16	W07	.366	15754	13.0	29	1N				200	2.1	EJ
MONT	13	1144	1157	1214	N18	W05	.389	15754	13.1	30	-B		C	1157	220		
HTPR	13	1145	1149	1208	N16	W06	.361	15754	13.0	23	-N		C	1149	100	1.0	E
LVOV	13	1149E	1153	1208D	N18	W06	.393	15754	13.0	19D	1F		C	1153	200	2.2	EJ
MONT	13	1200	1204	1216	N14	W11	.364	15754	12.7	16	-N		C	1204	80		E
HUAN	13	1201E		1213	N15	W10	.370	15754	12.8	12D	-F	1	P				
280 HTPR	13	1229	1233	1235	N15	W10	.370	15754	12.8	6	-F		C	1233	20	.2	E Y5
GRP71281	13	1323	1342 1405	1415	N14	W09	.349	15754	12.9	52	-N				120	1.3	EK
HTPR	13	1323	1342	1410	N15	W09	.363	15754	12.9	47	-F		C	1342	130	1.3	EK
LOCA	13	1348E	1348	1415	N14	W09	.349	15754	12.9	27D	-N		V	1348	122	1.3	
HUAN	13	1349E		1410D	N15	W08	.357	15754	13.0	21D	1N	1	P	1354	220	2.4	E
RAMY	13	1404E	1405U	1431	N14	W11	.364	15754	12.8	27D	-B	3	C		77		
282 HUAN	13	1349E	1352	1357	S19	W58	.852	15748	9.2	8D	-F	1	P	1352	20	.3	D Y5
283 RAMY	13	1532	1538	1545	S26	E01	.369	15757	13.7	13	-N	3	C		31		Y5
GRP71284	13	1532+5	1539+4	1548	N15	W11	.378	15754	12.8	16	-N				110	1.2	
HTPR	13	1532	1539	1545	N15	W11	.378	15754	12.8	13	-F		C	1539	40	.4	
RAMY	13	1534	1542	1555	N14	W11	.364	15754	12.8	21	-B	3	C		126		
HUAN	13	1537	1543	1548	N15	W09	.363	15754	13.0	11	-N	1	C	1543	110	1.2	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.	
285 HUAN	13	1549		1559	N17	W08	.387	15754	13.1	10	-F	1	C	1557	30	.3	Y5
286 RAMY	13	1614	1614	1626	N14	W12	.372	15754	12.8	12	-B	3	C		38		Y5
GRP71287	13	1652+4	1657+0	1703	N17	W08	.387	15754	13.1	11	-N				30	.3	F
BIGB	13	1652	1657U	1702	N18	W08	.402	15754	13.1	10	-N	2	P	1657	15		
RAMY	13	1656	1657	1703	N17	W08	.387	15754	13.1	7	-B	3	C		38		F
288 BIGB	13	1705	1730	1737	N17	W09	.393	15754	13.0	32	-N	2	C	1730	15		Y5
289 BIGB	13	1738	1738	1747	N18	W09	.407	15754	13.1	9	-N	2	C	1738	10		Y5
GRP71290	13	1816+2	1818+1	1834	S22	W56	.838	15748	9.6	18	-N				35	.7	F
BIGB	13	1816	1818	1833	S27	W58	.863	15748	9.4	17	-N	1	C	1818	30		
RAMY	13	1818	1819	1834	S17	W55	.822	15748	9.6	16	-B	3	C		38		F
GRP71291	13	1825	1835 1910+2	1922	N16	W12	.400	15754	12.9	57	-N				70	.8	F
RAMY	13	1825	1835	1841	N17	W09	.393	15754	13.1	16	-B	3	C		42		F
BIGB	13	1834U	1912	1917U	N16	W12	.400	15754	12.9	430	-N	1	P	1912	60		
RAMY	13	1902E	1912	1923D	N17	W11	.406	15754	13.0	21D	-B	3	C		86		F
HOLL	13	1907	1910	1921	N15	W14	.404	15754	12.7	14	-N	2	C		46		
GRP71292	13	1931+0	1933 1959	2013	N16	W10	.385	15754	13.1	42	1N				340	3.7	F
BIGB	13	1916	1959	2100U	N15	W11	.378	15754	13.0	1040	-N	3	P	1959	50		
HOLL	13	1931	1933	2002	N15	W14	.404	15754	12.8	31	1B	2	C		230		F
HUAN	13	1931		2013	N17	W10	.399	15754	13.1	42	1N	2	P	1934	340	3.8	E
RAMY	13	1936E	1936U	1938D	N17	W09	.393	15754	13.1	20	1B	3	C		464		F
293 CULG	13	2018	2021	2030	S28	W02	.403	15757	13.7	12	-F		C	2021	40	.4	Y5
GRP71294	13	2045+2	2046+1	2054	S24	E30	.573	15762	16.1	9	-N				90	1.1	E
CULG	13	2045	2046	2054	S24	E29	.561	15762	16.0	9	-B		C	2046	100	1.2	
HOLL	13	2046	2047	2051	S23	E33	.601	15762	16.3	5	-N	3	C		71		
BIGB	13	2046	2047	2054	S24	E30	.573	15762	16.1	8	-N	3	C	2047	120		
HUAN	13	2047	2047	2056	S24	E30	.573	15762	16.1	9	-N	2	C	2047	70	.8	E
295 CULG	13	2057	2059	2111	N15	W11	.378	15754	13.0	14	-F		C	2059	100	1.1	Y5
296 CULG	13	2058	2101	2109	N15	W34	.627	15754	11.3	11	-F	*	C	2101	50	.7	Y5
297 BIGB	13 IMP.1	2134E NO	2134U * HOLL	2137 CULG	N15	E05	.341	15749	14.3	30	?N	2	P	2134	50		Y5
298 BIGB	13	2134E	2134U	2138	N08	W80	.987	15769	7.9	40	1N	2	P	2134	70		Y5
299 CULG	13	2203	2208	2213	S12	W52	.788	15748	10.0	10	-F		C	2208	30	.5	Y5
GRP71300	13	2230	2232 2237	2302	N08	E60	.876	15768	18.4	32	-N						
BIGB	13	2230	2232	2237	N08	E60	.876	15768	18.4	7	-N	2	C	2232	50		
BIGB	13	2231	2237	2302	N08	E60	.876	15768	18.4	31	-N	2	C	2237	100		
GRP71301	13	2235+1	2237+1	2308	S18	W58	.851	15748	9.6	33	-N				45	.9	
CULG	13	2235	2238	2310	S18	W60	.867	15748	9.4	35	-N		C	2238	60	1.2	
HOLL	13	2236	2237	2306	S18	W56	.833	15748	9.7	30	-B	3	C		34		FDE
GRP71302	13	2237+0	2242 2251+5	2312	S22	E22	.465	15762	15.6	35	-F				45	.5	
CULG	13	2237	2251	2319	S22	E20	.442	15762	15.4	42	-F		C	2251	40	.4	
BIGB	13	2237	2242	2254U	S22	E26	.511	15762	15.9	170	-N	2	C	2242	50		
BIGB	13	2245	2256	2305	S23	E22	.474	15762	15.6	20	-N	2	C	2256	50		
303 HOLL	13	2243	2244	2306	N08	W76	.974	15749	8.2	23	-N	3	C				Y5
304 HOLL	13	2245	2245	2248	N15	W15	.413	15754	12.8	3	-N	3	C		116		F Y5
305 CULG	13	2341	2405	0015	S20	W60	.869	15748	9.5	34	-F		C	2405	40	.9	Y5
GRP71306	14	0058+0	0105+1	0121	S13	W54	.809	15748	10.0	23	-N						E
VORO	14	0058	0105	0117	S14	W54	.809	15748	10.0	19	1F		C	0105	233	4.2	E
CULG	14	0058	0106	0124	S13	W55	.818	15748	9.9	26	-N		C	0106	60	1.1	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP71307	14	0128+4	0133+0 0140	0151D	S17	W61	.875	15748	9.5	23	-N				60	1.3	E	
CULG	14	0128	0133	0151	S18	W63	.891	15748	9.3	23	-N		C	0133	40	.9		
VORO	14	0132	0133	0151	S18	W63	.851	15748	9.3	19	-N		C	0133	90		E	
VORO	14	0137	0140	0145	S16	W58	.848	15748	9.7	8	-N		C	0140	63	1.1	E	
VORO	14	0148	0157	0229	S14	W54	.809	15748	10.0	41	1F		C	0157	125	2.1	E	
GRP71308	14	0139+2	0144+0	0150	N15	W36	.651	15754	11.4	11	-N				70	.9	D	
CULG	14	0139	0144	0151	N15	W36	.651	15754	11.4	12	-N		C	0144	60	.8		
VORO	14	0141	0144	0148	N15	W37	.662	15754	11.3	7	-N		C	0144	81	1.0	D	
309 VORO	14	0141	0146	0150	S20	E15	.364	15762	15.2	9	-N		C	0146	63	.6	DHK	Y5
310 VORO	14	0152	0152	0201	N16	W20	.476	15754	12.6	9	-N		C	0152	45	.5	E	Y5
311 VORO	14	0157	0158	0203	S20	E15	.364	15762	15.2	6	-N		C	0158	45	.5	DH	Y5
312 VORO	14	0318	0319	0325	S24	E26	.527	15762	16.1	7	-N		C	0319	99	1.1	E	Y5
GRP71313	14	0338+0	0341+0	0346	S21	W11	.337	15757	13.3	8	-F						D	
CULG	14	0338	0341	0347	S21	W11	.337	15757	13.3	9	-F		C	0341	10	.1		
VORO	14	0338	0341	0344	S22	W11	.351	15757	13.3	6	-N		C	0341	63	.6	D	
314 CULG	14	0508	0515	0528	S18	W65	.905	15748	9.3	20	-N		C	0515	40	.9		Y5
315 CULG	14	0538	0545	0559	N15	E00	.333	15769	14.2	21	-F		C	0545	40	.4		Y5
GRP71316	14	0552	0602+3	0632	N16	W16	.436	15754	13.0	40	-F				80	.9	J	
CULG	14	0552	0605	0635	N16	W15	.427	15754	13.1	43	-F		C	0605	60	.8		
ABST	14	0555E	0602	0623	N17	W17	.458	15754	13.0	28D	-N		P	0602	105	1.2	FJ	
ABST	14	0555E	0604	0629	N15	W18	.444	15754	12.9	34D	-N		P	0604	87	1.0	EJ	
317 CULG	14	0558	0606	0618	S24	E24	.504	15762	16.0	20	-F		C	0606	40	.5		Y5
GRP71318	14	0558>9	0608+1	0620	S21	W12	.346	15757	13.3	22	-N						DJK	
ABST	14	0558	0608	0618	S22	W12	.359	15757	13.3	20	1N	*	C	0608	201	2.2	DJK	
CULG	14	0608	0609	0622	S21	W13	.356	15757	13.3	14	-N	*	C	0609	80	.9		
GRP71319	14	0651+1	0709 0718+3	0811	N18	W39	.701	15754	11.4	80	-N				90	1.2	JS	
CULG	14	0640	0721U	0805D	N18	W39	.701	15754	11.4	85D	-N		P	0721	80	1.1	JS	
TELV	14	0651	0709	0810	N18	W37	.680	15754	11.5	79	-N		C	0709	98	1.3	F	
ABST	14	0652	0718	0812	N16	W39	.690	15754	11.4	80	-N		C	0718	114	1.6	DJ	
320 ABST	14	0715	0716	0725	N14	W04	.323	15769	14.0	10	-F		C	0716	87	1.0	DJV	Y5
GRP71321	14	0715+1	0717+1	0730	N15	W16	.424	15754	13.1	15	-F				70	.8	DJ	
ABST	14	0715	0717	0727	N16	W16	.436	15754	13.1	12	-N	*	C	0717	87	1.0	DJ	
CULG	14	0716	0718	0732	N15	W17	.434	15754	13.0	16	-F	*	C	0718	60	.8		
322 ABST	14	0730	0735	0854D	N16	W01	.350	15769	14.2	84D	-F		P	0735	175	1.9	DJ	Y5
323 KANZ	14	0932	0932	0939D	S18	W67	.919	15748	9.4	7D	-F	1						Y5
	14	1018	1030	NO FLARE PATROL														
GRP71324	14	1148+1	1151+4 1204	1205	N17	W19	.477	15754	13.1	17	-N							
HTPR	14	1148	1151	1205	N17	W19	.477	15754	13.1	17	-B		C	1151	60	.6	E	
TELV	14	1149	1155	1205	N17	W19	.477	15754	13.1	16	-N		C	1158	122	1.3	F	
CATA	14	1200E	1200	1200D	N17	W20	.487	15754	13.0		-N	1	P	1200	56	1.8		
RAMY	14	1203E	1204U	1210	N14	W23	.490	15754	12.8	7D	-B	2	C		26			
GRP71325	14	1203>9	1240 1252+6	1310	S17	W65	.905	15748	9.6	67	-N							
RAMY	14	1203E	1240	1259D	S14	W61	.873	15748	9.9	56D	-F	3	C		33			
HTPR	14	1252	1252	1257	S19	W67	.919	15748	9.5	5	-F		C	1252	10	.2		
RAMY	14	1255	1258	1323	S18	W67	.919	15748	9.5	28	-B	3	C		44			
326 HTPR	14	1256	1257	1306	N17	W19	.477	15754	13.1	10	-N		C	1257	80	.8	E	Y5
GRP71327	14	1437+7	1440 1456	1459	N14	W24	.502	15754	12.8	22	-N						E	
HTPR	14	1437	1440	1455	N15	W25	.522	15754	12.7	18	-F		C	1440	20	.2	E	
RAMY	14	1444	1456	1502	N14	W24	.502	15754	12.8	18	-B	3	C		46			

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP71328	14	1452+4	1455+2	1509	N14	W05	.327	15769	14.2	17	-F				45	.5		
HTPR	14	1452	1455	1502	N15	W05	.343	15769	14.2	10	-F		C	1455	30	.3		
RAMY	14	1456	1457	1515	N14	W06	.332	15769	14.2	19	-N	3	C		64			
329 RAMY	14	1507	1507	1526	S24	W12	.386	15757	13.7	19	-N	3	C		23			Y5
330 RAMY	14	1542	1557	1616	S24	W13	.394	15757	13.7	34	-N	3	C		53		F	Y5
GRP71331	14	1609+1	1613+1	1630	N16	W43	.734	15754	11.4	21	-N				110	1.6	F	
RAMY	14	1609	1613	1630	N17	W41	.717	15754	11.6	21	-B	3	C		130		F	
HOLL	14	1610	1614	1630	N16	W45	.754	15754	11.3	20	-N	2	C		88			
GRP71332	14	1626+7	1638+0	1700	S18	W68	.925	15748	9.6	34	-B						F	
HOLL	14	1626	1638	1707	S16	W65	.905	15748	9.8	41	-B	*	C		177		F	
HUAN	14	1632E		1636D	S19	W68	.926	15748	9.6	4D	-F	*	P	1636	25		D	
RAMY	14	1633	1638	1653	S18	W69	.932	15748	9.5	20	-B	*	C		60		F	
333 RAMY	14	1630	1631	1650	S24	W13	.394	15757	13.7	20	-N	3	C		20		F	Y5
334 HOLL	14	1701	1702	1707	N15	W26	.534	15754	12.8	6	-N	3	C		55		F	Y5
335 RAMY	14	1722	1724	1732	S24	W13	.394	15757	13.7	10	-N	3	C		43		F	Y5
GRP71336	14	2001+3	2005	2011	S20	W69	.932	15748	9.7	10	-F				25		D	
HUAN	14	2001		2007D	S21	W70	.938	15748	9.6	6D	-F	2	P	2005	20		D	
CULG	14	2004	2005	2011	S19	W68	.926	15748	9.7	7	-N		C	2005	30			
	14	2128	2133	NO FLARE PATROL														
337 CULG	14	2133E	2134	2149	N28	W04	.540	15759	14.6	16D	-N		C	2134	70	.8		Y5
338 CULG	14	2304	2307	2327	N17	W26	.551	15754	13.0	23	-B		C	2307	80	1.0		Y5
339 CULG	15	0105	0108	0112	S15	W70	.937	15748	9.8	7	-N		C	0106	20			Y5
340 CULG	15	0130	0137	0159	S16	W70	.937	15748	9.8	29	?N		C	0137	90		FT	Y5
	IMP.1 NO : MANI MITK																	
GRP71341	15	0344+1	0346+5	0401	N16	W28	.566	15754	13.1	17	-F				45	.5	E	
CULG	15	0344	0351	0408	N17	W28	.574	15754	13.1	24	-F		C	0351	40	.5		
VORO	15	0345	0348	0354	N16	W29	.578	15754	13.0	9	-N		C	0346	45	.5	E	
GRP71342	15	0358	0420 0457	0540	S21	W75	.963	15748	9.5	102	1N						FS	
CULG	15	0358	0420	0540	S25	W78	.975	15748	9.3	102	1N		C	0420	160		SF	
CULG	15	0456	0457	0529	S18	W73	.953	15748	9.7	33	-F	*	C	0457	30		T	
343 CULG	15	0450	0506	0559	N15	W30	.582	15754	13.0	69	-F		C	0506	70	.9	F	Y5
344 ABST	15	0602E	0602	0656	S14	E90	1.000	15774	22.0	54D	?N		P	0602	87		ADK	Y5
	IMP.1 NO : CULG																	
345 ABST	15	0644	0645	0655	S25	W23	.502	15757	13.6	11	-N		C	0645	87	1.0	D	Y5
346 ABST	15	0648	0651	0705	S16	W75	.963	15748	9.7	17	1N		C	0651	174		EJ	Y5
GRP71347	15	0712+4	0725+2 0734	0755	N15	W35	.640	15754	12.7	43	2N				400	5.2	FJ	
CULG	15	0712	0734U	0809D	N15	W33	.617	15754	12.8	57D	1N		P	0734	180	2.3	F	
ABST	15	0712	0727	0750	N15	W35	.640	15754	12.7	38	2N		C	0727	436	5.9	FJ	
TELV	15	0716	0725	0755	N15	W35	.640	15754	12.7	39	1N		C	0725	367	4.6		
CATA	15	0740E	0745	0745D	N12	W36	.635	15754	12.6	5D	1N	1	P	0745	168	2.0		
348 ABST	15	0714	0715	0732	S16	W81	.985	15748	9.2	18	?N		C	0715	131		FJK	Y5
	IMP.1 NO : CULG																	
349 CULG	15	0739	0743	0801	S18	W75	.963	15748	9.7	22	-N		C	0743	60		T	Y5
350 MONT	15	0835	0848	0919	N12	W38	.659	15754	12.5	44	-N		C	0848	70			Y5
351 MONT	15	0839	0846	0854	S16	W80	.982	15748	9.4	15	-N		C	0846	60		E	Y5
352 MONT	15	0903	0906	0917	S19	W79	.979	15748	9.5	14	-N		C	0906	60		E	Y5
GRP71353	15	0923+6	0931+1	0939	S21	W77	.971	15748	9.6	16	-N				70			
MONT	15	0923	0931	0938	S20	W79	.979	15748	9.5	15	-N		C	0931	70			
TELV	15	0929	0932	0940	S22	W75	.963	15748	9.8	11	1N		C	0932	81			

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
354 MONT	15	0939	0943	0950D	S23	W24	.494	15757	13.6	11D	-N		C	0943	60		E	Y5
GRP71355	15	1039+3	1042+3	1106	N15	W33	.617	15754	13.0	27	-F				60	.8	E	
HTPR	15	1039	1042	1101	N16	W33	.623	15754	13.0	22	-F		C	1042	40	.5	E	
TELV	15	1042	1045	1110	N14	W33	.610	15754	13.0	28	-N		C	1045	81	1.0	E	
GRP71356	15	1041>9	1046 1105+0	1120	S23	W26	.518	15757	13.5	39	-N				45	.5	E	
MONT	15	1041	1046	1103	S23	W25	.506	15757	13.6	22	-N		C	1046	60		E	
HTPR	15	1102	1105	1120	S23	W29	.553	15757	13.3	18	-F		C	1105	30	.3	E	
CATA	15	1105E	1105	1125	S24	W26	.526	15757	13.5	20D	-N	1	P	1105	56	1.8		
357 HTPR	15	1058	1100	1103	S18	W78	.975	15748	9.6	5	-F		C	1100	20			Y5
GRP71358	15	1105+5	1105	1135	S22	W77	.971	15748	9.7	30	1N						E	
CATA	15	1105E	1105	1125	S22	W77	.971	15748	9.7	20D	1N	1	P	1105	56	1.6		
TELV	15	1110	1103	1145	S23	W77	.971	15748	9.7	35	1N		C	1103	123		E	
359 RAMY	15	1207	1210	1217	N14	W36	.646	15754	12.8	10	-B	2	C		32		F	Y5
360 RAMY	15	1216	1217	1221	S17	W78	.975	15748	9.7	5	-N	2	C		33			Y5
361 RAMY	15	1227	1230	1243	S24	W27	.537	15757	13.5	16	-B	3	C		37		F	Y5
362 HUAN	15	1306E		1425D	S25	W27	.545	15757	13.5	79D	-F	1	P	1311	45	.5	E	Y5
363 RAMY	15	1319	1320	1324	S17	W79	.979	15748	9.6	5	-N	3	C		11			Y5
364 RAMY	15	1320	1321	1330	N14	W37	.658	15754	12.8	10	-B	3	C		29			Y5
GRP71365	15	1327+7	1331 1337+2	1340	S18	W79	.979	15748	9.6	13	1N				90			
RAMY	15	1327	1340	1342D	S17	W79	.979	15748	9.6	15D	2B	*	V		244		F	
RAMY	15	1327	1340	1342D	S17	W79	.979	15748	9.6	15D	2B	*	V		244		F	
HUAN	15	1329		1337	S19	W87	.997	15748	9.0	8	-F	1	C				E	
HTPR	15	1334	1337	1340	S18	W79	.979	15748	9.6	6	-N	*	C	1337	60			
HUAN	15	1335	1339	1340	S18	W81	.985	15748	9.5	5	-N	*	C	1339	90			
366 RAMY	15	1332	1335	1343	S22	W02	.302	15762	15.4	11	-N	3	C		29			Y5
GRP71367	15	1347+3	1352+5	1422	N15	W36	.652	15754	12.9	35	-N				120	1.6	E	
HTPR	15	1347	1352	1406	N16	W30	.589	15754	13.3	19	-F		C	1352	40	.5	E	
MCMA	15	1349	1357	1422	N17	W36	.664	15754	12.9	33	-N		C	1357	90	1.2	E	
RAMY	15	1349	1355	1356D	N14	W37	.658	15754	12.8	7D	1B	3	V		148		F	
RAMY	15	1343	1355	1425	N14	W37	.658	15754	12.8	36	1B	3	C		148		F	
HUAN	15	1350		1353D	N16	W35	.646	15754	13.0	3D	-N	2	P	1352	130	1.7	E	
368 RAMY	15	1351	1357	1400	S17	W79	.979	15748	9.7	9	-N	3	C		28			Y5
GRP71369	15	1530	1532	1543	S19	W82	.988	15748	9.5	13	1B						F	
RAMY	15	1530	1532	1538	S18	W80	.982	15748	9.6	8	1B	3	C		115		F	
MCMA	15	1537E		1547D	S20	W85	.994	15748	9.3	10D	-F		P	1537				
370 RAMY	15	1531	1532	1540	N14	W38	.669	15754	12.8	9	-N	3	C		22			Y5
GRP71371	15	1550>9	1553	1652	S21	00	.283	15762	15.7	62	-B						F	
RAMY	15	1550	1553	1652	S22	W04	.307	15762	15.4	62	-B	3	C		77		F	
HUAN	15	1633		1634D	S21	E03	.288	15762	15.9	1D	-F	1	P	1633	40	.4		
372 HUAN	15	1620E		1634D	N23	W38	.722	15754	12.8	14D	-F	1	P					Y5
	15	1825	1845	NO FLARE PATROL														
	15	1936	1959	NO FLARE PATROL														
GRP71373	15	2004+4	2007+3	2055	N16	W37	.669	15754	13.1	51	1N							
CULG	15	2004	2007U	2028D	N18	W35	.659	15754	13.2	24D	1N		P	2007	160	2.2		
RAMY	15	2008	2010	2055	N14	W40	.692	15754	12.8	47	1B	3	C		336		DE	
374 RAMY	15	2026	2026	2030	S17	W83	.990	15748	9.6	4	-B	3	C		18			Y5
	15	2031	2038	NO FLARE PATROL														
375 RAMY	15	2100	2100	2114	S22	W06	.316	15762	15.4	14	-N	3	C		25			Y5
	15	2119	2121	NO FLARE PATROL														
376 CULG	15	2130	2230	2257	S21	W08	.312	15762	15.3	87	-N		C	2230	140	1.5		Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.	
	15	2135	2213	NO FLARE PATROL													
377 CULG	15	2232	2239	2248	S16	W83	.990	15748	9.7	16	-B		C	2239	20		Y5
378 CULG	15	2336	2340	2351	S21	W10	.327	15762	15.2	15	-F		C	2340	50	.5	Y5
379 CULG	16	0119	0123	0131	S15	W86	.996	15748	9.6	12	-N		C	0123	10		Y5
GRP71380	16	0204+2	0209+2	0220	S20	W11	.321	15762	15.3	16	-F						EJ
CULG	16	0204	0211U	0218	S21	W12	.343	15762	15.2	14	-F		C	0211	60	.6	
VORO	16	0206	0209	0222	S20	W11	.321	15762	15.3	16	-N		C	0209	143	1.5	EJ
GRP71381	16	0226+4	0231+2	0300	N23	E69	.955	15772	21.3	34	1F				110		E
CULG	16	0226	0233	0310	N26	E68	.954	15772	21.2	44	1N		C	0233	90		
VORO	16	0230	0231	0249	N21	E70	.957	15772	21.4	19	1F		C	0231	125		E
GRP71382	16	0332+2	0335+2	0358	N14	W42	.715	15754	13.0	26	-F						J
CULG	16	0332	0337	0408	N15	W42	.719	15754	13.0	36	-F		C	0337	40	.6	
VORO	16	0334	0335	0347	N14	W43	.726	15754	12.9	13	-N		C	0335	116	1.7	J
383 CULG	16	0413	0418	0430	S25	E05	.357	15762	16.6	17	-F		C	0418	40	.4	Y5
384 CULG	16	0626E	0631	0721	N15	W45	.751	15754	12.9	55D	-N		P	0631	80	1.2	Y5
385 KAND	16	0705E		0727	S13	W85	.995	15748	9.9	22D	PN		C				Y5
	IMP.2 NO : MANI ABST																
GRP71386	16	0724>9	0734+6	0750	S21	W12	.343	15762	15.4	26	-N				130	1.4	EJZ
ABST	16	0724	0734	0752	S21	W13	.353	15762	15.3	28	1N		C	0734	262	2.9	EJZ
CULG	16	0730	0740U	0740D	S21	W12	.343	15762	15.4	10D	-N		P	0740	120	1.3	
KAND	16	0734	0739	0747	S20	W12	.330	15762	15.4	13	-N		C		125	1.4	
GRP71387	16	0732+7	0738+5	0803	N16	W46	.766	15754	12.9	31	2N				350	5.4	EJZ
ABST	16	0732	0738	0810	N17	W46	.770	15754	12.9	38	2B		C	0738	436	6.8	EJZ
CULG	16	0735	0739D	0739D	N17	W45	.760	15754	12.9	4D	1N		P	0739	200	3.0	
MANI	16	0738	0741	0755	N15	W47	.772	15754	12.8	17	1B	3	C		280		
KAND	16	0739	0743	0755	N16	W46	.766	15754	12.9	16	2N		C		415	6.3	
MONT	16	0801E	0813	0826	N13	W46	.754	15754	12.9	25D	-N		C	0813	70		
388 KAND	16	0739	0751	0817	S13	W85	.995	15748	9.9	38	-N		C				Y5
389 KAND	16	0822	0903	0915	S13	W85	.995	15748	10.0	53	-N		C				Y5
GRP71390	16	0848+2	0851+0	0855D	S21	W12	.343	15762	15.5	7	-N						K
ISTA	16	0848	0851	0925	S22	W13	.366	15762	15.4	37	-B						K
MONT	16	0850	0851	0855	S21	W11	.334	15762	15.5	5	-N		C	0851	50		
GRP71391	16	0902+1	0908+1	0915	S20	W11	.321	15762	15.6	13	-N				80	.8	E
HTPR	16	0902	0909	0915	S19	W12	.318	15762	15.5	13	-N		C	0909	70	.7	E
MONT	16	0903	0908	0914	S21	W11	.334	15762	15.6	11	-N		C	0908	100		
GRP71392	16	0915+8	0920+8	0935	S20	W13	.340	15762	15.4	20	-N				70	.7	EK
ISTA	16	0915	0920	0934	S21	W14	.363	15762	15.3	19	-B						K
HTPR	16	0917	0923	0935	S18	W14	.32E	15762	15.3	18	-B		C	0923	70	.7	E
MONT	16	0918	0920	0938	S21	W11	.334	15762	15.6	20	-N		C	0920	70		E
KAND	16	0923	0928	0933	S20	W12	.330	15762	15.5	10	-N		C		73	.8	
GRP71393	16	0936>9	0953+1 1005	1032	N17	E61	.899	15772	21.0	56	-N						E
KAND	16	0936	0954	1037	N19	E61	.903	15772	21.0	61	-N		C		83	1.8	
ISTA	16	0938	0953	1023	N17	E63	.912	15772	21.1	45	-N						D
MONT	16	0941	1015	1031	N17	E61	.899	15772	21.0	50	-N		C	1015	60		
HTPR	16	0947	1005	1032	N17	E60	.892	15772	20.9	45	-F		C	1005	50	1.0	E
ISTA	16	0950	0954	1023	N16	E61	.897	15772	21.0	33	-N						D
394 KAND	16	0944	0948	0958D	S13	W85	.995	15748	10.0	14D	-N		C				Y5
395 KAND	16	1026		1056	S13	W85	.995	15748	10.1	30	-N		C				Y5
GRP71396	16	1036+5	1038+7	1108	S20	W15	.362	15762	15.3	32	1N				230	2.5	E
MONT	16	1036	1039	1115D	S20	W15	.362	15762	15.3	39D	1N		C	1039	250		
HTPR	16	1037	1039	1110	S19	W15	.350	15762	15.3	33	1B		C	1039	220	2.2	E
KANZ	16	1038	1038	1057	S21	W14	.363	15762	15.4	19	-B	1					
ATHN	16	1040E	1045	1055D	S15	W16	.323	15762	15.2	15D	-N	1		1045	131	1.3	
KAND	16	1041	1043	1105	S20	W12	.330	15762	15.5	24	-N		C				
397 KAND	16	1117		1205	S13	W85	.995	15748	10.1	48	-N		C				Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA 2g Deg.		
GRP71398	16	1141+4	1146+2	1209	N19	E61	.903	15772	21.1	28	-F				60	1.3		
HTPR	16	1141	1146	1200	N17	E59	.884	15772	20.9	19	-F		C	1146	50	1.0		
KAND	16	1145	1148	1218	N22	E64	.927	15772	21.3	33	-N		C		83	1.9		
GRP71399	16	1222+0	1223+2	1230D	N14	W49	.789	15754	12.8	8	-N				50	.8	F	
KAND	16	1222	1225	1226D	N14	W50	.798	15754	12.8	4D	-N		C		42	.7		
RAMY	16	1222E	1223	1230D	N14	W49	.789	15754	12.8	8D	-B	3	C		60		F	
400 KAND	16	1226		1226D	S13	W85	.995	15748	10.1		-N		C					Y5
GRP71401	16	1354+7	1400+4	1408	N20	E60	.898	15772	21.1	14	-N				30	.7	E	
MCMA	16	1354	1400	1408	N21	E63	.919	15772	21.3	14	-N		C	1400	70	1.7	E	
RAMY	16	1400E	1402	1409D	N17	E60	.892	15772	21.1	9D	-B	3	C		33			
HTPR	16	1401	1404	1405	N20	E58	.883	15772	20.9	4	-F		C	1404	20	.4		
GRP71402	16	1410	1416+1	1459	N15	W49	.792	15754	12.9	49	-N				110	1.8	H	
MCMA	16	1410	1417	1503D	N17	W50	.808	15754	12.8	53D	-N		C	1417	100	1.7	E	
RAMY	16	1414E	1416	1455	N14	W49	.789	15754	12.9	41D	-B	3	C		128		F H	
403 MCMA	16	1536E	1543	1600D	N25	W51	.845	15754	12.8	24D	-F		C	1543	20	.4	D	Y5
404 MCMA	16	1554	1555	1558	N21	E71	.962	15772	22.0	4	-B		C	1555	40	1.6	DV	Y5
GRP71405	16	1620+1	1624+1	1631	N15	W51	.811	15754	12.9	11	-N				30	.5		
MCMA	16	1620	1624	1630	N15	W52	.820	15754	12.8	10	-F		C	1624	25	.5	D	
RAMY	16	1621	1625	1632	N15	W51	.811	15754	12.9	11	-B	3	C		28		F	
GRP71406	16	1631+2	1633+3	1646	N11	W42	.703	15773	13.5	15	-N				40	.6		
MCMA	16	1631	1636	1650	N12	W43	.718	15773	13.5	19	-N		C	1636	50	.7	E	
RAMY	16	1633	1633	1641	N11	W41	.691	15773	13.6	8	-N	3	C		29		F	
GRP71407	16	1750	1758	1823	S21	W18	.406	15762	15.4	33	-B				90	1.0		
RAMY	16	1750	1758	1822D	S22	W18	.416	15762	15.4	32D	-B	3	C		130		F	
MCMA	16	1803E		1823	S21	W18	.406	15762	15.4	20D	-N		P	1803	60	.7	E	
GRP71408	16	1839+4	1843+2	1906	S15	W23	.421	15761	15.1	27	1B				260	2.9	H	
MCMA	16	1839	1845	1915	S15	W23	.421	15761	15.1	36	1B		C	1845	200	2.3	EH	
PALE	16	1843	1843	1857	S15	W23	.421	15761	15.1	14	1B	3	C		330		F	
GRP71409	16	1853+2	1855+1	1906	N16	W50	.805	15754	13.0	13	-B				50	.8		
MCMA	16	1853	1855	1905	N17	W51	.817	15754	13.0	12	-B		C	1855	50	1.0	E	
PALE	16	1855	1856	1907	N15	W50	.802	15754	13.0	12	-B	3	C		64		F	
GRP71410	16	1938	1946 1956	2005	S21	W17	.395	15762	15.5	27	-B							
PALE	16	1938	1946	1959	S22	W16	.395	15762	15.6	21	-B	3	C		49		F	
MCMA	16	1948E	1956	2010D	S21	W18	.406	15762	15.5	22D	-B		C	1956	70	.8	E	
411 MCMA	16	1958E	2000	2005D	N16	W53	.832	15754	12.9	7D	-F		P	2000	60	1.2	E	Y5
412 PALE	16	2102	2102	2112	N15	W54	.838	15754	12.8	10	-N	3	C		31		DE	Y5
	16	2118	2135	NO FLARE PATROL														
GRP71413	16	2140	2157 2246+1	2324	N20	W54	.852	15754	12.9	104	2N				400	7.4	JUV	
PALE	16	2140	2157	2211	N15	W55	.847	15754	12.8	31	1B	3	C		154		DE	
CULG	16	2153E	2247	2333D	N24	W55	.872	15754	12.8	100D	2N		C	2247	460	9.2	JUV	
PALE	16	2217	2221	2223	N17	W53	.835	15754	13.0	6	-N	3	C		42			
PALE	16	2224	2246	2310	N17	W53	.835	15754	13.0	46	2B	3	C		340		U F	
PALE	16	2311	2311	2314	N17	W53	.835	15754	13.0	3	-N	3	C		36		DE	
414 CULG	16	2242	2250	2311	S27	W07	.396	15762	16.4	29	-F		C	2250	80	.9		Y5
415 CULG	16	2259	2305	2328	N20	E58	.883	15772	21.3	29	-N		C	2305	40	.9		Y5
416 CULG	17	0005	0008	0023	S20	W23	.455	15762	15.3	18	-N		C	0008	90	1.0		Y5
417 PALE	17	0134	0135	0140	N15	W56	.856	15754	12.9	6	-N	3	C		30			Y5
418 PALE	17	0233	0234	0236	N15	W57	.864	15754	12.8	3	-N	3	C		21			Y5
GRP71419	17	0240+1	0243+2	0253	S20	W23	.455	15762	15.4	13	-N				70	.8	E	
CULG	17	0240E	0245	0253	S20	W25	.480	15762	15.2	13D	-F		C	0245	70	.8		
PALE	17	0241	0244	0247	S22	W18	.415	15762	15.8	6	-N	3	C		72		DE	
MITK	17	0241	0243	0253	S20	W23	.455	15762	15.4	12	-N		C	0243			E	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
420 ABST	17	0836	0844	0902D	S25	W26	.532	15762	15.4	26D	-F		P	0844	44	.5	D	Y5
GRP71421	17	0901+3	0904+2	0918	N17	W58	.877	15754	13.0	17	1N				120	2.4		
ABST	17	0901	0904	0907D	N17	W58	.877	15754	13.0	6D	1N		P	0904	148	3.0	E	
TELV	17	0903	0906	0925	N17	W56	.861	15754	13.2	22	1N		C	0906	123	2.2	D	
MONT	17	0904	0906	0910	N17	W60	.892	15754	12.9	6	-F		C	0906	50			
422 TELV	17	0921	0927	0936	N11	W49	.780	15773	13.7	15	-N		C	0927	61	.9	F	Y5
GRP71423	17	0942+3	0944+2	0959	N19	E48	.797	15772	21.0	17	-F				45	.7	E	
HTPR	17	0942	0944	1005	N20	E48	.801	15772	21.0	23	-N		C	0944	40	.6		
MONT	17	0945	0946	0952	N19	E49	.806	15772	21.1	7	-F		C	0946	50		E	
424 HTPR	17	1150	1153	1202	S19	W22	.435	15762	15.8	12	-F		C	1153	20	.2		Y5
	17	1223	1305	NO FLARE PATROL														
	17	1313	1317	NO FLARE PATROL														
425 RAMY	17	1317E	1317U	1320	N15	W63	.910	15754	12.8	3D	-N	2	C		14			Y5
426 RAMY	17	1317E	1318	1327	S15	E51	.779	15774	21.4	10D	-N	*	C		33			Y5
427 RAMY	17	1326	1334	1400	N15	W63	.910	15754	12.8	34	-N	2	C		14			Y5
	17	1411	1421	NO FLARE PATROL														
GRP71428	17	1426+1	1428	1443	S15	E53	.799	15774	21.6	17	-N				30	.5		
HUAN	17	1426E		1446	S15	E56	.829	15774	21.8	20D	-N	*	P	1429	30	.5	T	
RAMY	17	1427	1428	1440	S15	E51	.779	15774	21.4	13	-B	*	C		34			
429 HUAN	17	1427		1431	N18	W64	.921	15754	12.8	4	-F	1	C					Y5
GRP71430	17	1445+6	1452+1	1500	N14	W66	.928	15754	12.7	15	-N				30			
HUAN	17	1445	1453	1458	N14	W68	.940	15754	12.5	13	-N	1	C	1453	40			
RAMY	17	1451	1452	1501	N15	W64	.916	15754	12.8	10	-N	3	C		22			
431 HUAN	17	1526		1531	S26	E60	.875	0	22.1	5	-F	1	C					Y5
GRP71432	17	1527>9	1527	1611	N14	W65	.921	15754	12.8	44	-N							
RAMY	17	1527	1527	1618	N15	W64	.916	15754	12.8	51	-B	3	C		14			
HUAN	17	1546		1604	N14	W67	.934	15754	12.6	18	-F	1	C	1550	45			
433 HUAN	17	1528	1529	1532	S25	W24	.510	15762	15.8	4	-N	1	C	1529	60	.7		Y5
GRP71434	17	1611+6	1617+2	1636	N18	E45	.764	15772	21.0	25	-N				70	1.1	E	
HUAN	17	1611	1619	1630D	N19	E45	.769	15772	21.0	19D	-N	2	P	1619	70	1.1	E	
RAMY	17	1617	1617	1636	N17	E46	.770	15772	21.1	19	-B	3	C		69			
GRP71435	17	1832+9	1833 1847	1928	N15	W66	.929	15754	12.8	56	-N							
RAMY	17	1832	1833	1848D	N15	W66	.929	15754	12.8	16D	-N	3	C		17			
PALE	17	1841	1847	1928	N15	W66	.929	15754	12.8	47	-N	3	C		35		DE	
436 PALE	17	1922	1922	1936	S22	W27	.520	15762	15.8	14	-N	3	C		20		F	Y5
437 RAMY	17	2003	2010	2038	N15	W67	.935	15754	12.8	35	-B	3	C		19			Y5
438 PALE	17	2049	2059	2138	N15	W67	.935	15754	12.8	49	1N	3	C		180		DE	Y5
	17	2217	2230	NO FLARE PATROL														
	17	2300	2320	NO FLARE PATROL														
	17	0750	0805	NO FLARE PATROL														
439 ABST	18	0625	0655	0710	N14	W69	.945	15754	13.1	45	1N		C	0655	105			Y5
440 ABST	18	0654	0701	0738	S23	W31	.574	15762	16.0	44	-F		C	0701	131	1.7	E	Y5
GRP71441	18	0835	0835	0853	N14	W72	.960	15754	13.0	18	-B						DJ	
CATA	18	0835	0835	0840	N13	W75	.973	15754	12.7	5	-B	2	C	0835	45	2.2		
ABST	18	0836E	0859	0906D	N15	W70	.952	15754	13.1	30D	1N		P	0859	87		DJ	
442 ABST	18	0836E	0839	0906D	S23	E03	.316	15767	18.6	30D	?F		P	0839	218	2.4	E	Y5
	IMP.1 NO 7 CATA																	
443 CATA	18	0850	0850	0900	S23	W33	.597	15762	15.9	10	-N	2	P	0850	56	1.9		Y5
444 CATA	18	0915	0915	0920	N12	W75	.972	15754	12.8	5	-B	2	C	0915	28	2.0		Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
445 RAMY	18	1215	1215	1219	N15	W75	.974	15754	12.9	4	-N	2	C		18		Y5
	18	1226	1400	NO FLARE PATROL													
	18	0530	0602	NO FLARE PATROL													
	18	0605	0625	NO FLARE PATROL													
446 RAMY	18	1237	1237	1240	N15	W75	.974	15754	12.9	3	-N	2	C		15		Y5
447 RAMY	18	1237	1238	1243	S15	E42	.676	15774	21.7	6	-N	*	C		22		Y5
448 RAMY	18	1245	1249	1256	N15	W76	.977	15754	12.8	11	-B	3	C		45		Y5
449 RAMY	18	1246	1246	1248	S15	E42	.676	15774	21.7	2	-N	2	C		22		Y5
450 RAMY	18	1343	1354	1407	S15	E41	.663	15774	21.6	24	-B	3	C		99		Y5
GRP71451	18	1416+0	1418+0	1421	N14	W80	.989	15754	12.6	5	-N				35		D
RAMY	18	1416	1418	1422	N15	W76	.977	15754	12.9	6	-B	3	C		35		
HUAN	18	1416	1418	1420	N14	W85	.998	15754	12.2	4	-F	1	C	1418	25		D
452 HUAN	18	1422		1424	S15	E42	.676	15774	21.7	2	-F	1	C	1422	20	.2	D Y5
453 RAMY	18	1431	1431	1459	S15	E40	.651	15774	21.6	28	-N	3	C		30		Y5
454 HUAN	18	1446E		1450D	N13	W85	.998	15754	12.2	4D	-F	1	P				Y5
GRP71455	18	1517+8	1527+2 1610	1612	S15	E43	.688	15774	21.9	55	-N				120	1.7	E
RAMY	18	1517	1527	1641	S15	E39	.638	15774	21.6	84	-B	3	C		119		F
HUAN	18	1519	1529	1547D	S15	E43	.688	15774	21.9	28D	-N	2	P	1529	115	1.6	E
MCMA	18	1525	1528	1540	S15	E43	.688	15774	21.9	15	-N		C	1528	50	.7	E
HUAN	18	1607	1610	1636	S15	E43	.688	15774	21.9	29	-F	1	C	1610	80	1.1	E
456 HUAN	18	1621	1625	1633	N13	W85	.998	15754	12.3	12	-F	1	C	1625	30		Y5
GRP71457	18	1631+3	1635+1	1642	S23	W03	.316	15767	18.5	11	-N				40	.4	D
MCMA	18	1631	1635	1640	S23	W03	.316	15767	18.5	9	-F		C	1635	30	.3	D
HUAN	18	1634	1636	1643	S22	W03	.299	15767	18.5	9	-N	2	C	1636	35	.4	
RAMY	18	1634	1635	1642	S23	W01	.312	15767	18.6	8	-N	3	C		37		
GRP71458	18	1759>9	1807 1813+0	1825	S15	E39	.638	15774	21.7	26	-B				45	.6	
RAMY	18	1759	1813	1822	S15	E38	.625	15774	21.6	23	-B	3	C		52		
HOLL	18	1805	1807	1821	S15	E39	.638	15774	21.7	16	1N	3	C		189		F
PALE	18	1812	1813	1826	S11	E39	.630	15774	21.7	14	-B	3	C		41		DE
RAMY	18	1823	1823	1825	S15	E38	.625	15774	21.6	2	-N	*	C		35		
459 MCMA	18	1815E		1820	S23	W03	.316	15767	18.5	5D	-F		P	1818	30	.3	D Y5
460 PALE	18	1831	1832	1900	S11	E39	.630	15774	21.7	29	-N	*	C		35		Y5
461 RAMY	18	1835	1841	1845	S24	W42	.703	15762	15.6	10	-N	3	C		41		Y5
462 RAMY	18	1851	1851	1857	S23	W03	.316	15767	18.6	6	-F	3	C		31		Y5
GRP71463	18	1852+2	1855+1	1902	N14	W81	.991	15754	12.7	10	-N						
HOLL	18	1852	1855	1858	N14	W84	.997	15754	12.5	6	-N	3	C				
RAMY	18	1854	1856	1905	N15	W79	.987	15754	12.9	11	-N	3	C		30		
464 RAMY	18	1923	1924	1928	N15	W79	.987	15754	12.9	5	-N	3	C				Y5
GRP71465	18	1943+8	1952+5 2041	2046	S15	E39	.638	15774	21.7	63	-N				40	.5	E
HUAN	18	1656E		2025	S15	E40	.651	15774	21.7	209D	-F	*	P	2003	85	1.1	E
PALE	18	1943	1957	2101	S11	E38	.617	15774	21.7	78	-B	*	C		109		F
MCMA	18	1950	1952	2014D	S15	E41	.663	15774	21.9	24D	-N	*	C	1952	40	.6	E
RAMY	18	1951	1957	2023	S15	E37	.612	15774	21.6	32	-B	*	C		43		
RAMY	18	2041	2041	2046	S15	E37	.612	15774	21.6	5	-N	*	C		18		
466 RAMY	18	2001	2002	2007	N15	W80	.989	15754	12.8	6	-N	3	C				Y5
467 RAMY	18	2012	2025	2042	S23	W04	.319	15767	18.5	30	-N	3	C		68		Y5
468 RAMY	18	2041	2041	2048	N11	E69	.942	15777	24.0	7	-F	3	C		16		Y5
469 PALE	18	2107	2107	2117	S11	E38	.617	15774	21.7	10	-N	3	C		21		Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.	
470 PALE	18	2116	2117	2118	N09	W73	.962	15773	13.4	2	-N	3	C		22		Y5
471 CULG	18	2206	2218	2236	N15	W90	1.000	15754	12.2	30	-F		C	2218	30		Y5
472 CULG	18	2324	2333	2345	S22	W40	.673	15762	16.0	21	-F		C	2333	40	.5	Y5
GRP71473	19	0017+0	0019+1	0040	S23	W41	.688	15762	15.9	23	-F				50	.7	E
VORO	19	0017	0019	0031	S24	W41	.692	15762	15.9	14	-N		C	0019	63	.8	E
CULG	19	0017	0020	0049	S22	W41	.684	15762	15.9	32	-F		C	0020	40	.6	
474 CULG	19	0144E	0144E	0155	S23	W23	.479	15762	17.3	11D	-F		P	0144	40	.5	Y5
GRP71475	19	0152+2	0153+2	0157	N15	W89	1.000	15754	12.4	5	-N						H
VORO	19	0152	0153	0157	N16	W90	1.000	15754	12.3	5	-N		C	0153	45		DH
PALE	19	0154	0155	0157	N15	W89	1.000	15754	12.4	3	-B	3	C				F
GRP71476	19	0226+0	0228+1	0238	N19	E36	.679	15772	21.8	12	-N						
PALE	19	0226	0229	0238	N18	E36	.673	15772	21.8	12	-B	3	C		44		FDE
VORO	19	0226	0228	0237	N20	E36	.686	15772	21.8	11	-N		C	0228	125	1.7	E
GRP71477	19	0239+0	0240+0	0248	N13	E74	.969	15777	24.7	9	-F				25		D
PALE	19	0239	0240	0247	N12	E72	.959	15777	24.5	8	-N	3	C		15		DE
VORO	19	0239	0240	0248	N14	E77	.980	15777	24.9	9	-F		C	0240	27		D
478 VORO	19	0306	0306	0312	S14	E38	.623	15774	22.0	6	-N		C	0306	134	1.7	EJ Y5
	19	0348	0356	NO FLARE PATROL													
	19	0407	0416	NO FLARE PATROL													
479 CULG	19	0423	0425	0446	S21	W10	.322	15767	18.4	23	-F		C	0425	20	.2	Y5
	19	0445	0453	NO FLARE PATROL													
480 CULG	19	0458	0459	0508	S23	W55	.829	15762	15.1	10	-N		C	0459	30	.4	Y5
481 CULG	19	0517	0520	0528	N10	E67	.930	15777	24.2	11	-F		C	0520	20		T Y5
482 CULG	19	0700	0704	0715	S20	W51	.786	15762	15.5	15	-F		C	0704	10	.2	Y5
483 CULG	19	0725	0727	0734	S23	W56	.838	15762	15.1	9	-F		C	0727	20	.3	Y5
GRP71484	19	0739	0740+1	0754	S13	E34	.566	15774	21.9	15	-N						
CULG	19	0739	0741	0759	S14	E35	.583	15774	21.9	20	-F		C	0741	30	.3	
KANZ	19	0740E	0740	0749	S13	E34	.566	15774	21.9	9D	-B	1					
485 CULG	19	0739	0744	0808	S24	W76	.967	15757	13.6	29	-F		C	0744	30		Y5
486 CULG	19	0803	0808	0829D	S20	W52	.796	15762	15.4	26D	-N		P	0808	50	.9	Y5
487 KANZ	19	0819	0823	0826	S13	E34	.566	15774	21.9	7	-F	2					Y5
488 KANZ	19	1008	1012	1027	S12	E30	.507	15774	21.7	19	-N	2					Y5
489 KANZ	19	1116	1127	1146	N18	E30	.608	15772	21.7	30	-B	2					Y5
490 KANZ	19	1135	1139	1150	S21	W58	.852	15762	15.1	15	-N	1					Y5
GRP71491	19	1217+0	1217+0	1229	N19	E24	.554	15772	21.3	12	-F						E
KANZ	19	1217	1217	1234	N21	E25	.583	15772	21.4	17	-F	2					E
RAMY	19	1217	1217	1223	N18	E24	.544	15772	21.3	6	-N	3	C		20		
492 RAMY	19	1257	1258	1308	N11	E60	.881	15777	24.0	11	-N	3	C		15		Y5
GRP71493	19	1308+3	1308 1326	1337	S12	E51	.776	15778	23.4	29	-F						
RAMY	19	1308	1308	1334	S10	E49	.752	15778	23.2	26	-N	3	C		20		
KANZ	19	1311	1326	1340	S15	E53	.799	15778	23.5	29	-F	1					
GRP71494	19	1338+2	1341+3	1412	S24	W54	.822	15762	15.5	34	-N						E
RAMY	19	1338	1341	1420	S24	W52	.803	15762	15.7	42	-B	3	C		137		FDE
HUAN	19	1338		1352	S24	W55	.831	15762	15.4	14	-F	1	C	1346	40	.6	E
KANZ	19	1340	1344	1412	S21	W54	.816	15762	15.5	32	-N	1					E
GRP71495	19	1347+1	1351+2	1400	S22	W13	.362	15767	18.6	13	-F						
KANZ	19	1347	1351	1400	S22	W12	.353	15767	18.7	13	-F	1					
RAMY	19	1348	1353	1400	S22	W14	.371	15767	18.5	12	-N	3	C		35		

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
496 RAMY	19	1424	1428	1455	S24	W53	.813	15762	15.6	31	-N	3	C		39		Y5
497 RAMY	19	1551	1553	1556D	N11	E58	.865	15777	24.0	5D	-B	3	C		20		Y5
GRP71498	19	1556+7	1557 1604	1615	N18	E20	.504	15772	21.2	19	-N						F
RAMY	19	1556	1557	1620	N18	E20	.504	15772	21.2	24	-N	3	C		30		F
HOLL	19	1603	1604	1610	N18	E21	.514	15772	21.2	7	-N	3	V		28		
499 BIGB	19	1832	1833	1845	S19	W60	.867	15762	15.3	13	-N	3	C	1833	60		Y5
500 PALE	19	1914	1915	1924	S23	W16	.403	15767	18.6	10	-N	3	C		34		Y5
GRP71501	19	2001+3	2007+1	2014	N11	E61	.889	15777	24.4	13	-N				50	1.1	
BIGB	19	2001	2008	2015	N10	E63	.903	15777	24.6	14	-N	3	C	2008	70		
PALE	19	2004	2007	2012	N12	E60	.883	15777	24.3	8	-N	3	C		36		
GRP71502	19	2105>9	2118>9	2140	S18	E38	.634	15775	22.7	35	-N				30	.4	
CULG	19	2105	2118	2140	S19	E38	.638	15775	22.7	35	-N	*	C	2118	30	.4	
BIGB	19	2110	2129	2140	S29	E38	.685	15775	22.7	30	-N	*	C	2129	70		
HOLL	19	2114E	2122U	2134D	S18	E38	.634	15775	22.7	20D	-N	*	C		20		F
PALE	19	2115	2125	2137	S18	E37	.622	15775	22.7	22	-N	*	C		29		DE
503 BIGB	19	2108		2142D	N20	W17	.500	15771	18.6	34D	-N	3	C	2142	120		Y5
GRP71504	19	2110+2	2117 2131+5	2214	N18	E20	.504	15772	21.4	64	-N				70	.8	
CULG	19	2110	2131	2142D	N15	E23	.504	15772	21.6	32D	-F		C	2131	50	.6	
PALE	19	2111	2136	2214	N18	E19	.494	15772	21.3	63	-B	3	C		94		DE
HOLL	19	2112	2133	2142D	N19	E20	.515	15772	21.4	30D	-N	2	C		80		F
HOLL	19	2112	2117	2142D	N19	E20	.515	15772	21.4	30D	-F	2	C		35		F
505 BIGB	19	2123	2128	2140	N13	W24	.497	15768	18.1	17	-N	3	C	2128	30		Y5
506 BIGB	19	2128	2129	2131	S12	E90	1.000	15785	26.6	3	-N	3	C	2129	10		Y5
507 PALE	19	2222	2226	2228	N18	E19	.494	15772	21.4	6	-N	3	C		32		DE Y5
508 BIGB	19	2228	2239	2325	S16	E19	.370	15774	21.4	57	-N	2	C	2239	150		Y5
GRP71509	19	2231+9	2240+6	2336	N18	E19	.494	15772	21.4	65	-N				160	1.8	
PALE	19	2231	2241	2344	N18	E18	.485	15772	21.3	73	1B	*	C		222		FDE
CULG	19	2232	2240	2336	N18	E19	.494	15772	21.4	64	-N	*	C	2240	160	1.8	
BIGB	19	2240	2246	2313	N13	E23	.485	15772	21.7	33	-N	*	C	2246	60		
510 BIGB	19	2232	2233	2234	S13	E90	1.000	15785	26.7	2	-N	3	C	2233	25		Y5
GRP71511	19	2232+8	2240+4	2251	N10	E61	.888	15777	24.5	19	-N				80	1.7	
CULG	19	2232	2240	2254	N08	E60	.877	15777	24.4	22	-F		C	2240	80	1.8	
BIGB	19	2237	2244	2248	N10	E61	.888	15777	24.5	11	1N	3	C	2244	120		
PALE	19	2240	2240	2251	N10	E67	.930	15777	25.0	11	-N	3	C		21		DE
512 CULG	19	2352	2357	0015	N11	W18	.406	15768	18.6	23	-F		C	2356	20	.2	Y5
GRP71513	19	2357>9	0008+5	0022	S19	W62	.883	15762	15.3	25	-F				35	.8	E
VORO	20	0007	0008	0015	S20	W62	.883	15762	15.4	8	-N		C	0008	45		E
CULG	19	2357	2413	0029	S18	W62	.882	15762	15.3	32	-F		C	2413	20	.5	
514 KANZ	20	1055	1059	1107	S22	W26	.505	15767	18.5	12	-F	2					E Y5
515 KANZ	20	1059	1107	1115	N25	W32	.685	0	18.1	16	-N	2					DG Y5
	20	1123	1145	NO FLARE PATROL													
516 RAMY	20	1207	1207U	1207D	S22	W70	.937	15762	15.3		-N	2	C		89		Y5
517 KANZ	20	1210	1220	1257	N17	E06	.388	15772	21.0	47	1B	2					Y5
	20	1301	1644	NO FLARE PATROL													
518 BIGB	20	1644E	1644U	1650	S14	E90	1.000	15785	27.4	6D	1N	1	C	1644	50		Y5
519 BIGB	20	1712	1716	1723	N14	E52	.819	15777	24.6	11	-N	1	C	1716	15		Y5
520 BIGB	20	1712	1717	1724	N16	E71	.958	15787	26.0	12	-N	1	C	1717	40		Y5
521 PALE	20	2036	2037	2042	N15	E05	.352	15772	21.2	6	-N	2	C		22		DE Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
522 BIGB	20	2119	2122	2130	N19	E09	.432	15772	21.6	11	-N	1	C	2122	10		Y5
523 BIGB	20	2137	2139	2147U	S19	E90	1.000	15785	27.7	10D	-N	1	P	2139	30		Y5
	20	2225	2247	NO FLARE PATROL													
	20	2314	2326	NO FLARE PATROL													
524 BIGB	20	2331	2332	2333	S19	W76	.967	15762	15.3	2	-N	1	C	2332	15		Y5
525 PALE	21	0210	0211	0214	S26	E35	.635	15779	23.7	4	-N	3	C		23		DE Y5
526 CULG	21	0343	0358	0429	N12	W40	.686	15768	18.2	46	-N		C	0358	100	1.4	Y5
527 CULG	21	0421	0423	0429	N11	E41	.693	15777	24.3	8	-N		C	0423	30	.4	T Y5
528 CULG	21	0550	0559	0618	N11	W43	.716	15768	18.0	28	-F		C	0559	100	1.4	Y5
529 CULG	21	0602	0605	0614	N11	W14	.363	0	20.2	12	-F		C	0605	20	.2	Y5
530 CULG	21	0708	0723	0729	N12	E38	.662	15777	24.1	21	-F		C	0723	20	.3	Y5
531 CULG	21	0714	0723	0734	N18	E03	.396	15772	21.5	20	-F		C	0723	40	.4	F Y5
532 RAMY	21	1220	1233	1246	N18	E58	.880	15787	25.9	26	-N	3	C		24		Y5
533 RAMY	21	1225	1226	1231	N12	E37	.650	15777	24.3	6	-N	3	C		19		H Y5
534 RAMY	21	1235	1237	1300	N17	E03	.380	15772	21.7	25	-B	3	C		58		F Y5
535 RAMY	21	1241	1244	1247	S26	E30	.580	15779	23.8	6	-N	3	C		20		Y5
536 RAMY	21	1312	1314	1332	S22	W85	.993	15762	15.2	20	-B	3	C				F Y5
GRP71537	21	1511+0	1513+1	1530	N17	00	.377	15772	21.6	19	1B				370	4.0	
HTPR	21	1511	1513	1524	N18	E01	.393	15772	21.7	13	1B		C	1513	300	3.0	E
RAMY	21	1511	1514	1535	N17	W02	.378	15772	21.5	24	1B	3	C		438		F
538 RAMY	21	1554	1600	1607	N17	W02	.378	15772	21.5	13	-B	3	C		103		F Y5
539 RAMY	21	1611	1612	1628	N17	W01	.377	15772	21.6	17	-N	3	C		49		F Y5
540 RAMY	21	1620	1621	1624	N09	E39	.661	15777	24.6	4	-N	3	C		31		Y5
541 RAMY	21	1731	1731	1739	N17	W04	.382	15772	21.4	8	-N	3	C		43		Y5
542 RAMY	21	1740	1740	1817	N17	W04	.382	15772	21.4	37	-N	3	C		45		Y5
543 RAMY	21	1751	1758	1802	N12	E34	.614	15777	24.3	11	-N	3	C		40		Y5
544 RAMY	21	1813	1814	1821	N18	E54	.848	15787	25.8	8	-N	3	C		22		Y5
	21	1833	1840	NO FLARE PATROL													
545 RAMY	21	1912	1912	1918	S15	E64	.896	15785	26.6	6	-N	3	C		14		F Y5
GRP71546	21	2026+2	2027+3	2046	S26	E25	.526	15779	23.7	20	-F				60	.7	
RAMY	21	2026	2027	2055	S26	E25	.526	15779	23.7	29	-N	3	C		68		
CULG	21	2028	2030U	2037	S26	E25	.526	15779	23.7	9	-F		C	2030	60	.7	
547 PALE	21	2110E	2110U	2122	N13	E34	.620	15777	24.4	12D	-N	3	C		78		DE Y5
	21	2111	2122	NO FLARE PATROL													
	21	0802	0807	NO FLARE PATROL													
	21	0809	1216	NO FLARE PATROL													
548 PALE	21	2136	2137	2212D	N18	W06	.405	15772	21.5	36D	-B	3	C		87		DE Y5
549 BIGB	21	2148	2149	2151	N15	E30	.586	15777	24.2	3	-N	2	C	2149	40		Y5
550 BIGB	21	2154	2156	2205	S13	E61	.871	15785	26.5	11	-N	2	C	2156	30		E Y5
551 CULG	21	2215	2217	2219	S26	E25	.526	15779	23.8	4	-F		C	2217	10	.1	Y5
GRP71552	21	2251+2	2255+1 2303	2306	S14	E65	.903	15785	26.8	15	-F				40		E
CULG	21	2251	2256	2300	S15	E67	.917	15785	27.0	9	-F		C	2256	30	.8	
BIGB	21	2253	2255	2258	S15	E67	.917	15785	27.0	5	-N	1	C	2255	50		
BIGB	21	2256	2303	2312	S12	E60	.863	15785	26.5	16	-N	3	C	2303	15		E

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP71553	21	2307+4	2315+5	2329	S19	E73	.953	15785	27.4	22	-N				30			
CULG	21	2307	2320	2335	S20	E71	.942	15785	27.3	28	-N		C	2320	20			
BIGB	21	2311	2315	2323	S18	E75	.962	15785	27.6	12	-N	3	C	2315	40			
554 CULG	21	2335	2400U	0126	N17	W08	.399	15772	21.4	111	-N		P	2400	120	1.3	F	Y5
555 CULG	22	0040	0046	0113	N17	E57	.871	15787	26.3	33	-N		C	0046	40	.8		Y5
556 PALE	22	0144E	0144U	0157	S35	W12	.527	15783	21.2	13D	-N	3	C		43		DE	Y5
557 CULG	22	0155	0158	0218	N20	W03	.429	15772	21.9	23	-F		C	0158	20	.2		Y5
558 MITK	22	0519	0527	0539	S18	W90	1.000	15762	15.5	20	1B		C	0527	170		H	Y5
559 CULG	22	0546E	0559	0611D	N18	E54	.849	15787	26.3	25D	-F		C	0559	30	.6		Y5
560 MITK	22	0611	0614	0621	N20	E53	.847	15787	26.2	10	-F		C	0614			D	Y5
561 CULG	22	0657E	0703	0739	S15	E58	.846	15785	26.6	42D	-F		C	0703	30	.6		Y5
562 CULG	22	0726	0727	0738	N12	E27	.528	15777	24.3	12	-N		C	0727	40	.5		Y5
563 CULG	22	0746	0749	0757	N12	E27	.528	15777	24.3	11	-N		C	0749	40	.5		Y5
564 KANZ	22	0821	0830	0847	N18	E50	.814	15787	26.1	26	-F	1						Y5
GRP71565	22	0935+5	0937+3	1003	N08	E30	.540	15777	24.6	28	-F						D	
KHAR	22	0935E	0937	0950D	N07	E30	.535	15777	24.6	15D	-F		P	0940	45	.5	D	
KANZ	22	0940	0940	1003	N09	E30	.546	15777	24.7	23	-N	2					D	
GRP71566	22	0955+0	1003 1017	1057	S32	E69	.936	15786	27.6	62	1B						EH	
KANZ	22	0955	1003	1056	S30	E69	.935	15786	27.6	61	1B	2						
KHAR	22	0955	1017	1058	S34	E70	.943	15786	27.7	63	2N		P	1013	250		EH	
567 KHAR	22	1045E		1100D	N18	E47	.786	15787	26.0	15D	-F		P	1051	65	1.1	E	Y5
	22	1104	1131	NO FLARE PATROL														
568 RAMY	22	1146	1147	1206	N18	E45	.767	15787	25.9	20	-B	3	C		27			Y5
569 RAMY	22	1148	1149	1214	N09	E28	.520	15777	24.6	26	-N	3	C		36			Y5
570 RAMY	22	1213	1220	1245	N18	E44	.757	15787	25.8	32	-B	3	C		60		F	Y5
571 RAMY	22	1214	1216	1240	S26	E17	.445	15779	23.8	26	-N	3	C		22			Y5
572 RAMY	22	1229	1232	1236	N09	E27	.507	15777	24.5	7	-B	3	C		24			Y5
573 RAMY	22	1243	1244	1249	S24	E67	.920	15786	27.6	6	-N	3	C		14			Y5
GRP71574	22	1248	1254 1257	1310	N10	E25	.488	15777	24.4	22	-N							
RAMY	22	1248	1254	1307	N12	E24	.491	15777	24.3	19	-N	3	C		57			
RAMY	22	1251	1257	1310	N09	E27	.507	15777	24.6	19	-N	3	C		34			
575 RAMY	22	1253	1255	1302	N18	E44	.757	15787	25.8	9	-N	3	C		16			Y5
576 RAMY	22	1353	1357	1407	S19	E04	.248	15775	22.9	14	-F	3	C		62		F	Y5
GRP71577	22	1409	1413 1418	1425	N10	E24	.475	15777	24.4	16	-B						F	
RAMY	22	1409	1413	1425	N09	E26	.493	15777	24.5	16	-B	3	C		113		F	
RAMY	22	1417	1418	1423	N12	E23	.479	15777	24.3	6	-B	3	C		108			
578 RAMY	22	1424	1425	1433	N18	E43	.747	15787	25.8	9	-N	3	C		20			Y5
GRP71579	22	1452	1505	1602	S16	E58	.847	15785	27.0	70	1B				110	2.1		
RAMY	22	1452	1505	1602	S16	E56	.828	15785	26.8	70	-B	3	C		119		F	
MCMA	22	1454E		1527D	S16	E60	.864	15785	27.1	33D	1B		C	1504	100	2.1	E	
580 RAMY	22	1508	1512	1518	S24	E66	.913	15786	27.6	10	-N	3	C		16			Y5
GRP71581	22	1535	1537 1539	1554	N10	E24	.475	15777	24.4	19	-N							
RAMY	22	1535	1539	1551	N12	E23	.479	15777	24.4	16	-N	3	C		43			
RAMY	22	1535	1537	1554	N09	E26	.493	15777	24.6	19	-N	3	C		28			

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.	
582 RAMY	22	1558	1607	1625	N09	E25	.480	15777	24.5	27	-N	3	C		26		Y5
GRP71583	22	1632+1	1637 1644	1725D	N12	E25	.504	15777	24.6	53	-B						F
BIGB	22	1632	1644	1804	N14	E27	.544	15777	24.7	92	1N	2	C	1644	220		
RAMY	22	1633	1637	1716	N08	E25	.473	15777	24.6	43	-B	3	C		102		F
RAMY	22	1634	1637	1725	N12	E22	.467	15777	24.3	51	-B	3	C		37		F
584 BIGB	22	1753	1812	1840	S16	E64	.896	15785	27.5	47	-N	3	C	1812	60		Y5
GRP71585	22	1756+0	1757+1	1804	N17	W18	.476	15772	21.4	8	-N				70	.8	
RAMY	22	1756	1757	1805	N17	W17	.467	15772	21.5	9	-B	3	C		88		DE
BIGB	22	1756	1758	1803	N17	W20	.496	15772	21.2	7	-N	3	C	1758	60		
586 BIGB	22	1816	1819	1824	S24	E80	.981	15788	28.8	8	-N	3	C	1819	30		Y5
GRP71587	22	1821+1	1823+1	1843	N17	W15	.449	15772	21.6	22	-N				120	1.3	
BIGB	22	1821	1823	1843	N17	W13	.433	15772	21.8	22	-N	3	C	1823	130		
RAMY	22	1822	1824	1843	N17	W17	.467	15772	21.5	21	-B	3	C		117		DE
GRP71588	22	1823+0	1823+1	1909	S15	E55	.818	15785	26.9	46	1N				130	2.3	K
BIGB	22	1823	1823	1907	S14	E57	.836	15785	27.0	44	-N	3	C	1823	150		K
RAMY	22	1823	1824	1910	S16	E54	.809	15785	26.8	47	-B	3	C		115		
589 RAMY	22	1854	1927	1931	N12	E22	.467	15777	24.4	37	-N	3	C		54		Y5
590 BIGB	22	1924	1926	1928	N21	W24	.577	15772	21.0	4	-N	3	C	1926	10		Y5
GRP71591	22	1932+0	1932+0	1937	N17	W17	.467	15772	21.5	5	-N				50	.6	
PALE	22	1932	1932	1936	N18	W17	.479	15772	21.5	4	-N	2	C		49		
RAMY	22	1932	1932	1937	N17	W18	.476	15772	21.5	5	-B	3	C		45		
GRP71592	22	2016+0	2018+1	2028	S13	E10	.218	15778	23.6	12	-N						F
BIGB	22	2016	2018	2035	S14	E11	.241	15778	23.7	19	-N	3	C	2018	100		F
PALE	22	2016	2019	2020	S12	E10	.208	15778	23.6	4	-N	2	C		20		
593 BIGB	22	2020	2023	2025	N17	W18	.476	15772	21.5	5	-N	3	C	2023	15		Y5
594 BIGB	22	2022	2024	2034	N10	E26	.501	15777	24.8	12	-N	3	C	2024	100		E Y5
GRP71595	22	2129+0	2132+1	2140	S13	E10	.218	15778	23.6	11	-F				50	.5	
CULG	22	2129	2133	2134D	S13	E09	.205	15778	23.6	5D	-F		P	2133	60	.6	
BIGB	22	2129	2132	2140	S14	E11	.241	15778	23.7	11	-N	3	C	2132	40		
GRP71596	22	2137+3	2139+2	2144	N19	W14	.467	15772	21.9	7	-N				40	.4	
BIGB	22	2137	2139	2144	N21	W11	.475	15772	22.1	7	-N	3	C	2139	30		
PALE	22	2140	2141	2143	N18	W18	.488	15772	21.6	3	-B	2	C		45		DE
597 BIGB	22	2146	2155	2215	N20	W12	.467	15772	22.0	29	-N	3	C	2155	10		Y5
598 BIGB	22	2158	2207	2216	S16	E57	.838	15785	27.2	18	-N	3	C	2207	50		Y5
599 BIGB	22	2159	2210	2220	N20	E45	.776	15787	26.3	21	-N	3	C	2210	50		Y5
GRP71600	23	0006+0	0007+1	0020	N08	E20	.406	15777	24.5	14	-B				60	.7	
PALE	23	0006	0007	0013	N08	E20	.406	15777	24.5	7	-B	3	C		62		DE
CULG	23	0006	0008	0026	N08	E21	.420	15777	24.6	20	-B		C	0008	60	.7	
GRP71601	23	0045+5	0053+4	0106	S25	E45	.736	15786	26.4	21	1F				150	2.3	EGJS
CULG	23	0033	0038	0133	S27	E45	.743	15786	26.4	60	1N	*	C	0038	260	3.9	SF
VORO	23	0045	0053	0106	S25	E45	.736	15786	26.4	21	1F	*	C	0053	152	2.3	EJG
PALE	23	0047	0054	0059	S25	E59	.864	15786	27.5	12	-N	3	C		27		DE
MITK	23	0050	0057	0106	S25	E46	.746	15786	26.5	16	1F	*	C	0057	150	2.3	E
602 VORO	23	0038	0049	0114	N15	W24	.519	15772	21.2	36	-N		C	0049	125	1.5	E Y5
GRP71603	23	0049+1	0052+2	0101	N20	W12	.468	15772	22.1	12	-N				50	.6	DL
VORO	23	0049	0052	0059	N20	W13	.475	15772	22.1	10	-N	*	C	0052	72	.8	DL
CULG	23	0050	0054	0102	N21	W12	.482	15772	22.1	12	-N	*	C	0054	40	.5	T
GRP71604	23	0130+5	0131+5	0141	N18	W18	.489	15772	21.7	11	-N				100	1.1	E
MITK	23	0130	0132	0142	N18	W21	.518	15772	21.5	12	-N		C	0132			E
CULG	23	0130	0133	0153	N18	W18	.489	15772	21.7	23	-N		C	0133	100	1.2	
VORO	23	0130	0131	0140	N17	W21	.507	15772	21.5	10	-N		C	0131	143	1.6	E
VORO	23	0131	0134	0138	N20	W13	.475	15772	22.1	7	-N		C	0134	90	1.0	D
CULG	23	0132	0135	0143	N21	W12	.482	15772	22.2	11	-N		C	0135	40	.5	T
PALE	23	0135	0136	0138	N18	W20	.508	15772	21.6	3	-N	3	C		29		DE

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
605 CULG	23	0132	0139	0222	S13	E08	.191	15778	23.7	50	-F		C	0139	60	.6		Y5
GRP71606	23	0144+0	0147+1 0155	0215	N20	W12	.468	15772	22.2	31	-N				90	1.0	H	
CULG	23	0144	0148	0228	N21	W12	.482	15772	22.2	44	-N	*	C	0148	60	.7	T	
VORO	23	0144	0147	0152	N20	W13	.475	15772	22.1	8	-N	*	C	0147	125	1.4	DH	
VORO	23	0154	0155	0202	N20	W13	.475	15772	22.1	8	-N	*	C	0155	63	.7	DH	
607 VORO	23	0329	0331	0333	N20	W14	.482	15772	22.1	4	-N		C	0331	54	.6	E	Y5
608 VORO	23	0348	0351	0400D	S27	W52	.809	15767	19.3	12D	-N		C	0351	81	1.3	E	Y5
609 CULG	23	0406E	0408	0438	S24	W53	.811	15767	19.2	32D	-N		C	0408	30	.5		Y5
610 CULG	23	0412	0415	0422	N20	W13	.475	15772	22.2	10	-F		C	0415	60	.7	T	Y5
611 MANI	23	0635E	0635U	0643	N19	W16	.484	15772	22.1	8D	-N	3	C		50			Y5
612 MANI	23	0639	0640	0647	N12	E15	.388	15777	24.4	8	-N	3	C		50			Y5
	23	0655	0709	NO FLARE PATROL														
613 CULG	23	0735	0748	0826	S10	E02	.089	15778	23.5	51	-F		C	0748	10	.1		Y5
614 CULG	23	0811	0817	0827	N20	E31	.637	15787	25.7	16	-N		C	0817	20	.3		Y5
615 TELV	23	1240	1244	1310	N17	E12	.427	15777	24.4	30	-N		C	1244	123	1.3	F	Y5
616 TELV	23	1244	1254	1310	S12	E04	.135	15778	23.8	26	-N		C	1254	123	1.2	U	Y5
617 RAMY	23	1537	1540	1557	S23	E63	.892	15788	28.4	20	-N	3	C		21			Y5
618 RAMY	23	1540	1541	1545	S23	W67	.919	15767	18.6	5	-N	3	C		23			Y5
619 RAMY	23	1618	1618	1625	S26	E49	.779	15786	27.4	7	-B	3	C		19			Y5
620 RAMY	23	1645	1646	1656	S12	W02	.122	15778	23.5	11	-N	3	C		30			Y5
GRP71621	23	1718	1727	1744	S15	E37	.611	15785	26.5	26	-N				45	.6		
BIGB	23	1718	1727	1740	S14	E38	.621	15785	26.6	22	-N	1	C	1727	40			
RAMY	23	1732E	1732U	1748	S16	E36	.600	15785	26.4	16D	-N	3	C		46			
622 RAMY	23	1728	1729	1737	N18	E29	.600	15787	25.9	9	-N	3	C		19			Y5
GRP71623	23	1751+6	1756+3	1812	S15	E37	.611	15785	26.5	21	-B				80	1.0		
RAMY	23	1751	1756	1908	S16	E36	.600	15785	26.4	77	-B	3	C		97			
BIGB	23	1755	1756	1805	S15	E38	.624	15785	26.6	10	-N	2	C	1756	50			
PALE	23	1757	1759	1812	S14	E37	.608	15785	26.5	15	-B	3	C		90		DE	
624 RAMY	23	1806	1806	1815	S26	E48	.769	15786	27.4	9	-N	3	C		46			Y5
625 RAMY	23	1806	1808	1808	N18	E28	.590	15787	25.9	2	-N	*	C		47			Y5
626 PALE	23	1820	1821	1823	S14	E37	.608	15785	26.5	3	-N	3	C		43		DE	Y5
627 PALE	23	1836	1837	1858	S14	E36	.595	15785	26.5	22	-N	3	C		37		DE	Y5
GRP71628	23	2006+1	2007+1	2017	N19	E24	.558	15787	25.6	11	-N				50	.6		
BIGB	23	2006	2007	2017	N11	E24	.483	15787	25.6	11	-N	3	C	2007	50			
CULG	23	2007	2008	2017	N20	E23	.558	15787	25.6	10	-N		C	2008	120	1.5		
PALE	23	2012E	2012U	2016	N19	E28	.598	15787	25.9	4D	-B	3	C		52		DE	
GRP71629	23	2031+1	2033+1	2043	S10	W04	.107	15778	23.6	12	-B				80	.8		
BIGB	23	2031	2034	2043	S10	W04	.107	15778	23.6	12	-N	3	C	2034	70			
CULG	23	2031	2033	2050	S10	W04	.107	15778	23.6	19	-B		C	2033	60	.6		
PALE	23	2032	2034	2043	S12	W03	.128	15778	23.6	11	-B	3	C		115		DE F	
630 BIGB	23	2204	2218	2234	S32	E75	.964	15788	29.5	30	-N	3	C	2218	50			Y5
631 PALE	23	2212	2212	2216	N12	E05	.309	15777	24.3	4	-N	3	C		53			Y5
632 PALE	23	2333	2334	2337	S14	E34	.568	15785	26.5	4	-N	3	C		52			Y5
633 PALE	24	0015	0016	0018	S25	E46	.746	15786	27.5	3	-B	3	C		18		DE	Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP71634	24	0134+3	0145+3	0208	N11	E08	.313	15777	24.7	34	1B				310	3.2	HL	
VORO	24	0134	0145	0208	N20	E08	.447	15777	24.7	34	1N		C	0145	412	4.4	EH	
CULG	24	0135	0145	0155D	N11	E10	.328	15777	24.8	20D	1B		P	0145	190	2.0	LF	
MITK	24	0135	0148	0215	N12	E09	.335	15777	24.7	40	1B		C	0148	360	3.9	F	
PALE	24	0137	0148	0206	N12	E03	.303	15777	24.3	29	1B	3	C		258		FDE	
PALE	24	0143	0144	0156	N08	E06	.253	15777	24.5	13	-B	3	C		43			
635 PALE	24	0219	0223	0232	S14	E32	.540	15785	26.5	13	-N	3	C		19		DE	Y5
636 VORO	24	0222	0224	0228	S11	W08	.169	15778	23.5	6	-F		C	0224	27	.2	D	Y5
637 VORO	24	0250	0250	0251	S27	E43	.723	15786	27.3	1	-F		C	0250	45	.6	E	Y5
638 VORO	24	0334	0336	0340D	N21	E19	.534	15787	25.6	6D	-N		C	0336	90	1.0	D	Y5
GRP71639	24	0416	0418+6	0453	S14	E31	.526	15785	26.5	37	-N							
MITK	24	0416	0418	0443	S14	E31	.526	15785	26.5	27	-N		C	0418			E	
CULG	24	0421E	0424	0503	S15	E32	.543	15785	26.6	42D	-N		P	0424	98	1.1	F	
640 CULG	24	0435	0436	0448	N21	E19	.534	15787	25.6	13	-N		C	0436	20	.2		Y5
641 CATA	24	0735E	0735	0740D	N16	W01	.365	15777	24.2	5D	1N	2	P	0735	196	2.1		Y5
GRP71642	24	0815	0815	0831D	S13	E29	.494	15785	26.5	16	-B						F	
CATA	24	0815	0815	0825D	S13	E28	.479	15785	26.4	10D	-B	2	P	0815	168	2.0		
MANI	24	0818E	0818U	0831D	S13	E30	.508	15785	26.6	13D	-N	3	C		40		F	
643 HTPR	24	0835E		0843	S14	E28	.483	15785	26.5	8D	-F		C	0836	30	.3	E	Y5
GRP71644	24	0905+5	0912+3	0933	S10	W11	.205	15778	23.6	28	1B				210	2.2	E	
CATA	24	0905	0915	0935	S10	W11	.205	15778	23.6	30	1B	*	C	0915	224	2.4		
HTPR	24	0910	0912	0930	S10	W13	.237	15778	23.4	20	-B	*	C	0912	100	1.0	E	
KHAR	24	0914E		0930D	S10	W10	.190	15778	23.6	16D	1N	*	P	0918	210	2.3	BE	
645 ABST	24	0906E	0913	0916D	S14	E30	.512	15785	26.6	10D	-N		P	0913	131	1.6	E	Y5
646 HTPR	24	0959	1000	1002	N20	E15	.490	15787	25.5	3	-F		C	1000	30	.3		Y5
647 HTPR	24	1016	1020	1026	N13	E25	.513	0	26.3	10	-F		C	1020	30	.3		Y5
	24	1111	1121	NO FLARE PATROL														
648 HTPR	24	1123	1125	1126	N12	E05	.310	15777	24.8	3	-F		C	1125	50	.5	E	Y5
GRP71649	24	1129+2	1131	1157	S15	E26	.459	15785	26.4	28	-F				60	.7	E	
RAMY	24	1129E	1131	1157	S16	E26	.464	15785	26.4	28D	-N	2	C		90			
HTPR	24	1131		1142D	S15	E27	.473	15785	26.5	11D	-F		C	1137	40	.5	E	
650 RAMY	24	1134	1134	1137	N18	E19	.500	15787	25.9	3	-N	2	C		41			Y5
GRP71651	24	1220+5	1225	1238D	S15	E27	.473	15785	26.5	18	1B				340	3.9	E	
HTPR	24	1220		1238D	S15	E27	.473	15785	26.5	18D	-N		C	1227	180	2.0	E	
CATA	24	1225	1225	1230D	S14	E32	.540	15785	26.9	5D	1B	2	P	1225	337	3.7		
RAMY	24	1232E	1232U	1236D	S16	E26	.464	15785	26.5	4D	1B	2	C		418		DE	
652 RAMY	24	1243	1245	1255	S26	E38	.666	15786	27.4	12	-N	2	C		105			Y5
GRP71653	24	1247E		1315	N13	W01	.316	15777	24.5	28	-B						E	
HTPR	24	1247E		1300D	N15	W02	.350	15777	24.4	13D	-N		C	1251	110	1.1	E	
RAMY	24	1249E	1249	1315	N12	W01	.299	15777	24.5	26D	1B	2	C		254		DE	
GRP71654	24	1519+1	1522+1	1530	N12	W05	.310	15777	24.3	11	-N				35	.4	E	
HTPR	24	1519	1523	1533	N13	W07	.336	15777	24.1	14	-F		C	1523	40	.4	E	
RAMY	24	1520	1522	1527	N12	W03	.303	15777	24.4	7	-B	2	C		29			
	24	1704	1829	NO FLARE PATROL														
	24	0825	0826	NO FLARE PATROL														
655 RAMY	24	1713E	1715U	1728	S26	E34	.622	15786	27.3	15D	-B	3	C		89		H	Y5
GRP71656	24	1903+0	1903+2	1917	N12	W06	.315	15777	24.3	14	-N				90	.9		
PALE	24	1903E	1903U	1919D	N12	W07	.321	15777	24.3	16D	-N	3	C		56		DE	
RAMY	24	1903	1905	1914	N12	W05	.310	15777	24.4	11	-B	3	C		123			
GRP71657	24	1912	1914	1927	S15	E22	.401	15785	26.4	15	1B				230	2.5		
RAMY	24	1912	1914	1928	S16	E22	.408	15785	26.5	16	1B	3	C		314			
PALE	24	1918E	1918U	1926	S14	E23	.410	15785	26.5	8D	-B	3	C		155		DE F	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.	
658 RAMY	24	1915	1917	1922	S26	E35	.633	15786	27.4	7	-N	3	C		26		Y5
659 RAMY	24	1930	1932	1935	S16	E22	.408	15785	26.5	5	-N	3	C		33		Y5
GRP71660	24	2001+5	2005+1	2015	S12	W16	.295	15778	23.6	14	-N				40	.4	
RAMY	24	2001	2005	2019	S12	W17	.310	15778	23.6	18	-B	3	C		48		
PALE	24	2006	2006	2011	S12	W16	.295	15778	23.6	5	-N	3	C		28		DE F
661 PALE	24	2055	2055	2118	S26	W14	.416	15779	23.8	23	-N	3	C		44		DE Y5
662 CULG	24	2114	2204	2311	S12	W41	.656	15774	21.8	117	1F		C	2204	160	2.1	L Y5
663 CULG	24	2135	2139	2204	N18	W50	.815	15772	21.1	29	-N		C	2139	50	.9	Y5
664 CULG	24	2145	2148	2200	S14	E23	.410	15785	26.6	15	-F		C	2148	40	.4	Y5
665 CULG	24	2150	2224	2239	N18	W08	.417	15777	24.3	49	-F		C	2224	60	.7	F Y5
666 CULG	24	2156	2202	2218	N20	W42	.748	15772	21.8	22	-F	*	C	2202	10	.2	Y5
667 CULG	24	2248	2302	2354	S14	E23	.410	15785	26.7	66	-N		C	2302	80	.9	F Y5
668 CULG	24	2250	2257	2302	S24	W86	.995	15767	18.5	12	-F		C	2257	10		Y5
669 CULG	25	0041	0048	0058	N17	W53	.838	15772	21.1	17	-F		C	0048	20	.4	Y5
670 CULG	25	0132	0150	0223	S24	E35	.621	15786	27.7	51	-F		C	0150	40	.6	Y5
GRP71671	25	0138+1	0144+2	0206	S28	W25	.541	15784	23.2	28	-F						EJ
VORO	25	0138	0144	0205	S28	W25	.541	15784	23.2	27	-N		C	0144	143	1.7	EJ
MITK	25	0139	0146	0206D	S28	W25	.541	15784	23.2	27D	-F		C	0146			E
672 PALE	25	0222	0223	0228	S14	E21	.380	15785	26.7	6	-N	3	C		32		DE Y5
GRP71673	25	0317+2	0323+1	0402	S14	E20	.366	15785	26.6	45	-B				170	1.8	
CULG	25	0317	0323	0402	S14	E19	.351	15785	26.6	45	-N		C	0323	170	1.8	F
PALE	25	0318	0324	0325D	S14	E20	.366	15785	26.6	7D	1B	3	V		226		
MITK	25	0319		0321D	S13	E20	.360	15785	26.6	2D	-B		P	0321			E
MANI	25	0325E	0325U	0336D	S14	E20	.366	15785	26.6	11D	-B	3	C		100		FDE
674 CULG	25	0413	0423	0500	S27	E38	.670	15786	28.0	47	-F		C	0423	40	.6	Y5
675 CULG	25	0423	0426	0452	S15	E20	.372	15785	26.7	29	-N		C	0426	40	.4	Y5
676 CULG	25	0440	0510U	0531	S29	W25	.550	15784	23.3	51	-F		C	0510	20	.2	Y5
677 CULG	25	0609	0611	0622	S23	E30	.557	15786	27.5	13	-F		C	0611	40	.5	Y5
GRP71678	25	0626+0	0628+1 0727	0744	S14	E18	.337	15785	26.6	78	-N				180	1.9	EK
CULG	25	0626	0629	0744	S14	E19	.351	15785	26.7	78	1N		C	0629	200	2.1	FK
ABST	25	0626	0628	0658	S15	E18	.344	15785	26.6	32	-N		C	0628	166	1.8	E
ABST	25	0723	0727	0751D	S13	E17	.315	15785	26.6	28D	-F		P	0727	166	1.8	E
679 CULG	25	0707	0717	0731	S20	E52	.794	15788	29.2	24	-F		C	0717	50	.8	Y5
GRP71680	25	0820+1	0826	0831	S26	W21	.480	15779	23.8	11	-F						E
HTPR	25	0820E		0829	S26	W21	.480	15779	23.8	9D	-F		C	0821	30	.3	E
ABST	25	0821	0826	0832	S26	W21	.480	15779	23.8	11	1F		C	0826	218	2.5	E
681 HTPR	25	1009	1016	1017	S14	E14	.279	15785	26.5	8	-F		C	1016	20	.2	Y5
682 HTPR	25	1039	1040	1053	S15	E16	.315	15785	26.6	14	-N		C	1040	80	.8	E Y5
683 HTPR	25	1055	1059	1106	S14	E14	.279	15785	26.5	11	-F		C	1059	30	.3	E Y5
GRP71684	25	1150+4	1152+4	1218	S25	E27	.536	15786	27.5	28	-N						
HTPR	25	1150	1152	1210	S25	E30	.570	15786	27.7	20	-N		C	1152	60	.7	
RAMY	25	1154	1156	1225	S26	E25	.522	15786	27.4	31	-B	3	C		170		
GRP71685	25	1218>9	1224 1231	1315	S14	E15	.293	15785	26.6	57	-N						U
TELV	25	1218	1224	1315	S09	E19	.328	15785	26.9	57	-N		C	1238	98	1.0	U
RAMY	25	1221	1231	1316	S14	E12	.252	15785	26.4	55	-B	3	C		48		
HTPR	25	1229	1239	1300	S15	E15	.302	15785	26.6	31	-F		C	1239	30	.3	
	25	1245	1250	NO FLARE PATROL													

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	25	1328	1330	NO FLARE PATROL														
	25	1340	1417	NO FLARE PATROL														
686 RAMY	25	1340	1340	1400	S14	E12	.252	15785	26.5	20	-N	3	C		20			Y5
GRP71687	25	1417+0	1418	1458	S26	E24	.512	15786	27.4	41	1B				420	5.0		
HTPR	25	1417E		1455	S26	E26	.533	15786	27.5	38D	1B		C	1417	370	4.3	EF	
RAMY	25	1417	1418	1501	S26	E23	.501	15786	27.3	44	1B	3	C		465		FDE	
688 HTPR	25	1439	1442	1450	S14	E12	.252	15785	26.5	11	-F		C	1442	20	.2	E	Y5
	25	1507	1510	NO FLARE PATROL														
	25	1540	1551	NO FLARE PATROL														
	25	1556	1758	NO FLARE PATROL														
	25	1828	1831	NO FLARE PATROL														
689 BIGB	25	1940	1943	1952	S21	E88	.998	0	1.4	12	?N	3	C	1943	200		D	Y5
	IMP.2 NO : PALE																	
GRP71690	25	2010+2	2021+1	2129	S14	E11	.238	15785	26.7	79	-B				150	1.6	F	
RAMY	25	2010	2022	2129	S14	E09	.213	15785	26.5	79	-B	3	C		178		F	
PALE	25	2012	2021U	2028D	S14	E11	.238	15785	26.7	16D	-B	3	C		144		F	
CULG	25	2017E	2021U	2028D	S14	E15	.293	15785	27.0	11D	-N		P	2021	140	1.5	B	
691 CULG	25	2121	2123	2130	S27	E18	.462	15786	27.2	9	-N		C	2123	60	.7		Y5
692 PALE	25	2137	2137	2234	S14	E10	.225	15785	26.7	57	-N	3	C		22		DE	Y5
	25	2144	2148	NO FLARE PATROL														
693 PALE	25	2251	2301	0020	S14	E22	.395	15785	27.6	89	-B	3	C		80		DE	Y5
	25	2313	2324	NO FLARE PATROL														
	25	0323	0325	NO FLARE PATROL														
694 PALE	25	2316	2316	2352	S14	E09	.213	15785	26.6	36	-N	3	C		54		DE	Y5
695 CULG	25	2336	2343	0035	S25	E25	.514	15786	27.9	59	-N		C	2343	130	1.5		Y5
696 CULG	26	0041	0055	0107	S27	E17	.452	15786	27.3	26	-F		C	0055	50	.6	T	Y5
GRP71697	26	0319+4	0324+2 0335+0	0344	S12	E05	.141	15785	26.5	25	-N						E	
CULG	26	0319	0324	0334	S12	E03	.124	15785	26.4	15	-F		C	0324	30	.3		
VORO	26	0323	0326	0331	S14	E03	.156	15785	26.4	8	-N		C	0326	99	1.0	E	
CULG	26	0332	0335	0348	S12	E08	.177	15785	26.7	16	-N		C	0335	40	.4		
VORO	26	0333	0335	0339	S12	E07	.164	15785	26.7	6	-B		C	0335	99	1.0	E	
698 CULG	26	0334	0336	0351	N19	W62	.912	15772	21.5	17	-N		C	0336	10	.3		Y5
699 CULG	26	0426	0434	0515	N22	E01	.463	15787	26.3	49	-N		C	0434	30	.3		Y5
700 CULG	26	0525	0534	0550	S27	E18	.461	15786	27.6	25	-F		C	0534	20	.2	T	Y5
701 CULG	26	0533	0537	0605	S26	W29	.565	15779	24.1	32	-N		C	0537	60	.8	L	Y5
GRP71702	26	0551	0554	0604D	S13	E04	.147	15785	26.5	13	-B						EJ	
CULG	26	0551	0554	0604	S13	E03	.139	15785	26.5	13	-B		C	0554	80	.8		
ABST	26	0553E	0616	0636D	S13	E05	.155	15785	26.6	43D	1N		P	0616	262	2.7	EJ	
GRP71703	26	0830+5	0834+5	0844	N21	W10	.474	15787	25.6	14	-F							
ABST	26	0830E	0834	0845	N22	W11	.494	15787	25.5	15D	-F		P	0834	87	1.0	E	
KANZ	26	0835	0839	0843	N20	W10	.460	15787	25.6	8	1F	2					D	
GRP71704	26	0850+4	0854 0901+1	0943	S27	W31	.595	15779	24.0	53	-N						D	
ABST	26	0850	0854	0900D	S27	W31	.595	15779	24.0	10D	-F		P	0854	157	2.0	D	
MONT	26	0853	0902	0926D	S27	W32	.605	15779	24.0	33D	-N		C	0902	110			
KANZ	26	0854	0901	0943	S26	W31	.588	15779	24.0	49	-N	2						
705 KANZ	26	0947	1005	1042	S14	E05	.170	15785	26.8	55	?N	2					F	Y5
	IMP.1 NO : CATA																	
706 KANZ	26	1015	1018	1035	S27	W32	.605	15779	24.0	20	-F	1				T	Y5	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg	
GRP71707	26	1143+1	1144+0 1151	1156	S14	W01	.148	15785	26.4	13	-B						
RAMY	26	1143	1144	1156	S14	W01	.148	15785	26.4	13	-B	3	C		99		
RAMY	26	1143	1151	1156	S14	W01	.148	15785	26.4	13	-N	3	C		24		
KANZ	26	1144	1144	1156	S14	W01	.148	15785	26.4	12	-B	1					
708 KANZ	26	1203	1203	1217	S30	E15	.473	15786	27.6	14	-N	2					D Y5
709 RAMY	26	1424	1424	1428	N18	W09	.425	15787	25.9	4	-N	3	C		24		Y5
710 RAMY	26	1429	1444	1517	S14	W02	.151	15785	26.5	48	-N	3	C		72		Y5
711 RAMY	26	1431	1433	1435	N18	W09	.425	15787	25.9	4	-N	3	C		33		Y5
GRP71712	26	1752	1754+1	1806	N19	W08	.435	15787	26.1	14	-N				35	.4	F
BIGB	26	1752	1754	1800	N20	W05	.439	15787	26.4	8	-N	3	C	1754	20		
RAMY	26	1754E	1755	1812	N18	W11	.437	15787	25.9	18D	-N	3	C		51		F
713 BIGB	26	1842	1843	1844	S28	E09	.407	15786	27.5	2	-N	1	C	1843	50		Y5
714 BIGB	26	1921	1923	1924	S15	W70	.935	15774	21.6	3	-N	1	C	1923	30		Y5
GRP71715	26	2025+0	2032 2047	2210	S14	W03	.156	15785	26.6	105	-N						
BIGB	26	2025	2047U	2114	S16	W04	.194	15785	26.6	49	1N	1	C	2047	260		
PALE	26	2025	2032	2220	S14	W03	.156	15785	26.6	115	-B	3	C		156		DE
CULG	26	2052E	2052	2136	S14	W05	.170	15785	26.5	44D	-N		P	2052	100	1.0	
BIGB	26	2126	2152	2235	S13	W03	.139	15785	26.7	69	-N	*	P	2152	50		
CULG	26	2135	2205	2329	S13	W02	.134	15785	26.7	114	-N	*	C	2205	130	1.3	F
716 CULG	26	2104	2106	2111	S27	E07	.382	15786	27.4	7	-N		C	2106	30	.3	Y5
717 CULG	26	2105	2107	2117	N15	W32	.613	15777	24.5	12	-F		C	2107	20	.3	Y5
718 CULG	26	2234	2240	2248	S26	E06	.362	15786	27.4	14	-F		C	2240	60	.7	Y5
719 CULG	26	2316	2336	2345	S12	W11	.219	15785	26.1	29	-N	*	C	2336	20	.2	Y5
720 CULG	27	0012	0020	0044	N20	W10	.461	15787	26.3	32	-N		C	0020	80	.9	Y5
GRP71721	27	0028+1	0031+1	0041	S28	W51	.801	15784	23.2	13	-F						D
CULG	27	0028	0032	0044	S28	W51	.801	15784	23.2	16	-F		C	0032	30	.5	
VORO	27	0029	0031	0037	S28	W52	.810	15784	23.1	8	-N		C	0031	90	1.5	D
722 CULG	27	0153	0214	0218D	N21	W11	.481	15787	26.3	25D	-N		C	0214	40	.5	Y5
723 CULG	27	0330	0333	0343	S09	W50	.762	15778	23.4	13	-F		C	0333	30	.5	Y5
724 CULG	27	0356	0359	0413	S13	W14	.270	15785	26.1	17	-N		C	0359	20	.2	Y5
725 CULG	27	0452	0456	0529	N20	W12	.473	15787	26.3	37	-N		C	0456	40	.5	Y5
726 CULG	27	0520E	0520U	0526	S13	W16	.299	15785	26.0	6D	-N		P	0520	60	.6	C Y5
727 MITK	27	0606E	0607	0608	S27	E03	.367	15786	27.5	2D	-N		C	0607			D Y5
728 CULG	27	0630	0631	0644	S13	W16	.299	15785	26.1	14	-F		C	0631	40	.4	Y5
729 CULG	27	0715	0722	0748	N22	W14	.513	15787	26.3	33	-N		C	0722	50	.6	T Y5
730 CULG	27	0720	0739	0805	S20	E00	.248	15785	27.3	45	-N		C	0739	110	1.1	F Y5
731 CULG	27	0741	0745	0806	S28	E10	.412	15786	28.1	25	-N		C	0745	60	.7	Y5
732 CULG	27	0757	0806	0813	S13	W15	.284	15785	26.2	16	-N		C	0806	20	.2	Y5
GRP71733	27	0830	0834+1	0850D	N18	W16	.476	15787	26.2	20	-B				130	1.5	FU
CATA	27	0830	0834	0835D	N18	W16	.476	15787	26.2	5D	-B	2	P	0834	168	2.1	
MANI	27	0833E	0835	0850D	N19	W16	.488	15787	26.2	17D	-B	3	V		100		F U
	27	1418	1450	NO FLARE PATROL													
GRP71734	27	1554+4	1558+0	1603	S14	W16	.306	15785	26.5	9	-B				45	.5	F
RAMY	27	1554	1558	1559D	S14	W18	.335	15785	26.3	5D	-B	3	C		50		F
HOLL	27	1558	1558	1603	S15	W15	.300	15785	26.5	5	-B	2	C		36		
735 HOLL	27	1716	1716	1719	S27	W48	.770	15777	24.1	3	-N	3	C		24		Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
736 HOLL	27	1716	1716	1722	N12	W46	.755	15779	24.3	6	-N	3	C		48		F	Y5
737 RAMY	27	1719	1721	1734	N18	W24	.551	15787	25.9	15	-N	3	C		19			Y5
738 HOLL	27	1740	1741	1744	N07	W45	.727	15777	24.4	4	-N	3	C		30			Y5
GRP71739	27	1759+0	1759+1	1805	N18	W24	.551	15787	25.9	6	-N				30	.4	F	
RAMY	27	1759	1759	1804	N18	W24	.551	15787	25.9	5	-N	3	C		21			
HOLL	27	1759	1800	1805	N18	W24	.551	15787	25.9	6	-N	3	C		36		F	
GRP71740	27	1819+2	1822+3	1831	N07	W43	.704	15777	24.5	12	-N				45	.6	F	
RAMY	27	1819	1825	1831	N08	W42	.695	15777	24.6	12	-N	3	C		45		F	
HOLL	27	1821	1822	1831	N07	W45	.727	15777	24.4	10	-N	3	C		36		F	
GRP71741	27	1835+3	1840+6 1859	1908	N18	W24	.551	15787	26.0	33	-B				80	.9	F	
HOLL	27	1835	1840	1858	N18	W24	.551	15787	26.0	23	-B	3	C		71		F	
RAMY	27	1838	1846	1912	N18	W25	.562	15787	25.9	34	-B	3	C		91		F	
HOLL	27	1859	1859	1903	N18	W24	.551	15787	26.0	4	-N	3	C		68		F	
742 HOLL	27	1839	1845	1855	S27	W49	.780	15779	24.1	16	-N	3	C		26		F	Y5
GRP71743	27	1844+0	1845+0	1849	S14	W17	.321	15785	26.5	5	-N				30	.3		
RAMY	27	1844	1845	1848	S14	W18	.335	15785	26.4	4	-N	3	C		27			
HOLL	27	1844	1845	1849	S15	W17	.328	15785	26.5	5	-N	3	C		31			
GRP71744	27	1848+1	1849+0	1905	N12	W47	.765	15777	24.3	17	-B				60	.9		
HOLL	27	1848	1849	1905	N12	W47	.765	15777	24.3	17	-B	3	C		62		FDE	
RAMY	27	1849	1849	1912	N12	W44	.733	15777	24.5	23	-B	3	C		59		DE	
PALE	27	1856E	1856U	1900	N11	W48	.773	15777	24.2	4D	-B	2	C		38		DE	
GRP71745	27	1923+0	1923+0	1930	N07	W44	.716	15777	24.5	7	-N				40	.6		
RAMY	27	1923	1923	1932	N08	W43	.707	15777	24.6	9	-N	3	C		25			
HOLL	27	1923	1923	1927	N07	W46	.739	15777	24.4	4	-N	3	C		49			
746 CULG	27 IMP.1	2005E NO ‡ HOLL	2047U PALE	0137 RAMY	S30	E35	.656	0	30.5	332D	?F		P	2047	350	4.7	S	Y5
GRP71747	27	2033>9	2037 2045	2100	N09	W46	.745	15777	24.4	27	-N						E	
RAMY	27	2033	2037	2102	N08	W44	.719	15777	24.6	29	-N	3	C		51			
PALE	27	2044	2045	2054	N11	W49	.783	15777	24.2	10	-N	3	C		22		DE	
PALE	27	2055	2055	2057	N11	W49	.783	15777	24.2	2	-N	3	C		22		DE	
748 PALE	27	2109	2112	2140	N11	W49	.783	15777	24.2	31	-N	3	C		43			Y5
GRP71749	27	2158+1	2159+1 2205	2222	N10	W50	.790	15777	24.2	24	-B				70	1.1		
PALE	27	2158	2159	2231	N11	W50	.793	15777	24.2	33	-B	3	C		84		DE	
CULG	27	2158	2159	2214	N10	W50	.790	15777	24.2	16	-N		C	2159	60	1.0		
HOLL	27	2159	2200	2222	N07	W47	.750	15777	24.4	23	-B	3	C		98			
HOLL	27	2205	2205	2215	N12	W49	.786	15777	24.2	10	-B	3	C		48			
GRP71750	27	2228>9	2240+4	2330	N20	W26	.591	15787	26.0	62	-B						U	
CULG	27	2228	2244	2353	N20	W25	.581	15787	26.1	85	-N		C	2244	150	1.9		
HOLL	27	2230	2240	2330	N18	W27	.582	15787	25.9	60	1B	3	C		313		U F	
PALE	27	2239	2243	2251	N20	W26	.591	15787	26.0	12	-B	3	C		87		FDE	
751 CULG	27	2352	2411	0026	N24	W55	.876	0	23.9	34	-F		C	2411	40	.7		Y5
752 CULG	28	0134	0136	0150	S13	W25	.434	15785	26.2	16	-F		C	0136	10	.1		Y5
GRP71753	28	0208	0220 0230	0302	N17	W55	.856	15777	24.0	54	-N						F	
CULG	28	0208	0230	0302	N15	W55	.851	15777	24.0	54	-N		C	0230	100	1.9		
CULG	28	0215	0220	0243	N20	W55	.865	15777	24.0	28	-F		C	0220	30	.6	F	
754 CULG	28	0317	0322	0329	S23	W59	.860	15779	23.7	12	-N		C	0322	40	.8		Y5
755 CULG	28	0337	0350	0411	N13	W55	.846	15777	24.0	34	-N		C	0350	40	.8		Y5
756 CULG	28	0418	0432	0443	S13	W24	.419	15785	26.4	25	-F		C	0432	20	.2		Y5
757 CULG	28	0453	0507	0536	N12	W52	.816	15777	24.3	43	-N		C	0507	50	1.0		Y5
758 CULG	28	0556	0557	0605	S25	W59	.862	15779	23.8	9	-F		C	0557	10	.2		Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS		
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.			
759 CULG	28	0605	0633	0650	N13	W55	.846	15777	24.1	45	-N		C	0633	50	1.0			Y5
760 CULG	28	0614	0616	0619	S12	W28	.475	15785	26.2	5	-N		C	0616	10	.1			Y5
GRP71761	28	0621	0624 0645	0656	S23	E09	.331	15788	28.9	35	-F								
CULG	28	0621	0624	0641	S21	E06	.282	15788	28.7	20	-F		C	0624	10	.1			
CULG	28	0637	0645	0656	S25	E12	.382	15788	29.2	19	-F	*	C	0645	30	.3			
762 CULG	28	0622	0626	0634	S13	W29	.492	15785	26.1	12	-F		C	0626	40	.5			Y5
763 CULG	28	0704	0716	0736	N24	W26	.630	15787	26.3	32	-F		C	0716	30	.4			Y5
764 CULG	28	0732	0733	0740	S27	W55	.833	15779	24.2	8	-N		C	0733	40	.8			Y5
GRP71765	28	0818+2	0819	0827	N13	W57	.863	15777	24.1	9	-F						D		
CULG	28	0818	0819	0829D	N19	W57	.877	15777	24.1	11D	-N		C	0819	40	.8			
ISTA	28	0820		0825	N08	W58	.861	15777	24.0	5	-F						D		
	28	0835	0837	NO FLARE PATROL															
	28	0902	0905	NO FLARE PATROL															
766 CATA	28	0915	0920	0935D	N07	W57	.851	15777	24.1	20D	1B	2	P	0920	140	2.0			Y5
	28	0935	0950	NO FLARE PATROL															
767 RAMY	28	1234	1243	1256	N08	W53	.815	15777	24.5	22	-N	3	C		21				Y5
768 RAMY	28	1250	1252	1257	S14	W32	.538	15785	26.1	7	-B	3	C		69			H	Y5
769 RAMY	28	1304	1309	1405	N12	W55	.843	15777	24.4	61	-B	3	C		110			F	Y5
GRP71770	28	1411	1414 1429	1456	N09	W56	.845	15777	24.4	45	-B								
RAMY	28	1411	1414	1443	N12	W55	.843	15777	24.5	32	-B	2	C		101				
RAMY	28	1427	1429	1456	N08	W57	.852	15777	24.3	29	-N	*	C		419				
RAMY	28	1427	1442	1456	N08	W57	.852	15777	24.3	29	-B	*	C		97				
771 RAMY	28	1420	1422	1428	N07	E75	.970	15802	3.2	8	-N	2	C						Y5
772 RAMY	28	1504	1506	1508	N07	E74	.966	15802	3.2	4	-F	2	C						Y5
773 RAMY	28	1544	1545	1548	N09	E76	.975	15802	3.4	4	-F	2	C						Y5
GRP71774	28	1733E	1734	1802	S14	W29	.496	15785	26.6	29	-B				50	.6			
RAMY	28	1733E	1734U	1735D	S14	W30	.510	15785	26.5	2D	-B	2	C		42				
HOLL	28	1737E	1737U	1802	S15	W29	.499	15785	26.6	25D	-B	3	C		73				
775 HOLL	28	1801	1811	1839	N07	W58	.859	15777	24.4	38	-N	3	C		55			F	Y5
776 HOLL	28	1804	1804	1835	S15	W29	.499	15785	26.6	31	-B	3	C		44			F	Y5
777 HOLL	28	1905	1905	1912	S27	W61	.880	15779	24.2	7	-N	3	C		14			F	Y5
778 HOLL	28	1906	1906	1917	S15	W29	.499	15785	26.6	11	-N	3	C		20			F	Y5
779 RAMY	28	1949	1949	1953	N07	E72	.956	15802	3.2	4	-N	2	C		10				Y5
780 RAMY	28	2002	2006	2011	N08	W57	.852	15777	24.6	9	-B	2	C		35				Y5
781 CULG	28	2238	2240	2247	S10	W79	.979	15778	23.0	9	-F		C	2240	20				Y5
782 CULG	29	0036	0048	0127	S23	W16	.393	15786	27.8	51	-N		C	0048	120	1.3			Y5
783 CULG	29	0119	0123	0132	S32	E30	.621	15794	31.3	13	-F		C	0123	20	.3			Y5
784 PALE	29	0204	0208	0219	S18	E37	.617	15792	31.9	15	1B	3	V		219			U F	Y5
785 CULG	29	0509	0513	0600	S25	W18	.436	15786	27.9	51	-N		C	0513	60	.7	F		Y5
786 CULG	29	0607	0609	0629	N12	W77	.980	15777	23.5	22	-N		C	0609	20		K		Y5
787 CULG	29	0620	0631	0645	S13	W33	.549	15785	26.8	25	-F		C	0631	50	.6			Y5
788 CULG	29	0655	0658	0707	S27	W70	.937	15779	24.0	12	-F		C	0658	30				Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP71789	29	0719+5	0725+5	0756	N10	E80	.988	15802	7.3	37	1F				100		DJ	
ABST	29	0719	0725	0802D	N11	E80	.989	15802	4.3	43D	1N		P	0725	87		DJ	
CULG	29	0724	0730	0749	N10	E80	.988	15802	4.3	25	1F		C	0730	120			
GRP71790	29	0807+3	0812+5	0826	N19	W43	.756	15787	26.1	19	-F						F	
ABST	29	0807	0812	0828D	N19	W44	.765	15787	26.0	21D	1F		P	0812	148	2.3	F	
CULG	29	0810	0817	0823	N20	W43	.761	15787	26.1	13	-F		C	0817	50	.8		
GRP71791	29	0826+5	0831+4	0838	S15	W40	.647	15785	26.4	12	-F						EU	
ABST	29	0826E	0831	0838	S15	W41	.660	15785	26.3	12D	-F		P	0831	140	1.9	E	
HTPR	29	0829	0831	0838	S14	W40	.645	15785	26.4	9	-F		C	0831	20	.3	E	
TELV	29	0831	0835	0855	S17	W38	.627	15785	26.5	24	-N		C	0835	82	1.0	U	
792 ABST	29	0833	0836	0842	N10	W81	.991	15777	23.3	9	?F		C	0836	87		E	Y5
	IMP.1 NO : HTPR																	
GRP71793	29	0835>9	0849+4	0856	N10	E68	.937	15802	6.5	21	1F						D	
ABST	29	0835	0849	0856	N10	E68	.937	15802	3.5	21	1N		C	0849	105		D	
ABST	29	0846	0859	0859D	N09	E75	.971	15802	4.0	13D	1F		P	0859	105		D	
HTPR	29	0850	0853	0856	N10	E65	.918	15802	3.2	6	-F		C	0853	30	.7		
794 HTPR	29	1027	1054	1100	S13	E90	1.000	15804	5.2	33	-F		C	1054	10			Y5
795 RAMY	29	1141	1145	1154	N18	W65	.930	15777	24.6	13	-N	2	C		80			Y5
GRP71796	29	1147+3	1148+2	1153	S14	W44	.695	15785	26.2	6	-B				50	.7		
HTPR	29	1147	1148	1153	S14	W44	.695	15785	26.2	6	-N		C	1148	30	.4		
RAMY	29	1148	1149	1153	S14	W40	.645	15785	26.5	5	-B	3	C		50			
CATA	29	1150	1150	1155	S15	W44	.697	15785	26.2	5	-B	2	C	1150	67	2.1		
797 CATA	29	1155	1200	1205	S12	E90	1.000	15804	5.2	10	-F	2	C	1200	28	1.3		Y5
798 RAMY	29	1201	1201	1216	N18	W65	.930	15777	24.6	15	-N	3	C		13			Y5
GRP71799	29	1200+5	1202+3	1214	S15	W41	.660	15785	26.4	14	-N				70	.9	EU	
TELV	29	1200	1203	1220	S18	W40	.655	15785	26.5	20	-N	*	C	1203	82	1.0	U	
HTPR	29	1201	1202	1212	S14	W42	.671	15785	26.4	11	-F	*	C	1202	30	.4	E	
RAMY	29	1202	1205	1215	S14	W40	.645	15785	26.5	13	-B	*	C		59			
CATA	29	1205	1205	1210	S17	W42	.676	15785	26.4	5	-B	*	C	1205	84	2.4		
800 RAMY	29	1216	1217	1234	N18	W48	.799	15787	25.9	18	-N	3	C		33			Y5
801 RAMY	29	1218	1228	1240	N18	W65	.930	15777	24.6	22	-N	3	C		53			Y5
GRP71802	29	1219+6	1222+3	1232	S12	E90	1.000	15804	8.3	13	-N							
HTPR	29	1219	1222	1229	S13	E90	1.000	15804	5.3	10	-F		C	1224	10			
CATA	29	1225	1225	1235	S12	E90	1.000	15804	5.3	10	1N	2	C	1225	45	1.6		
803 RAMY	29	1227	1229	1231	N07	E62	.892	15802	3.2	4	-N	3	C		16			Y5
804 RAMY	29	1323	1324	1349	N18	W66	.935	15777	24.6	26	-B	3	C		18			Y5
805 RAMY	29	1338	1338	1343	N08	W66	.922	15777	24.6	5	-N	2	C		23			Y5
806 RAMY	29	1437	1437	1438	N18	W66	.935	15777	24.7	1	-N	2	C		16			Y5
GRP71807	29	1520+2	1523+1	1531	N08	E68	.935	15802	6.7	11	-N				25			
HTPR	29	1520	1524	1530	N09	E70	.947	15802	3.9	10	-N		C	1524	20	.5		
RAMY	29	1522	1523	1532	N08	E66	.922	15802	3.6	10	-B	2	C		25			
808 RAMY	29	1602	1604	1617	S14	E83	.990	15804	4.9	15	-B	3	C					Y5
809 RAMY	29	1617	1621	1626	S26	W75	.961	15779	24.1	9	-N	3	C		21			Y5
810 RAMY	29	1734	1736	1751	N14	W84	.997	15777	23.4	17	-N	3	C		39			Y5
811 BIGB	29	1734	1738	1746	S10	W85	.995	15778	23.4	12	?N	1	C	1738	60		A	Y5
	IMP.1 NO : RAMY																	
812 RAMY	29	1740	1740	1744	N08	E64	.909	15802	3.5	4	-N	3	C		14			Y5
813 BIGB	29	1801	1803	1805	N14	E90	1.000	0	5.5	4	?N	1	C	1803	60			Y5
	IMP.1 NO : RAMY																	
814 RAMY	29	1810	1811	1829	S26	W30	.574	15786	27.5	19	-N	3	C		55			Y5
815 CULG	29	2020E	2020E	2049	N25	W71	.968	0	24.5	29D	-F		P	2020	60			Y5

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.	
816 RAMY	29	2035	2049	2107	N22	E66	.941	15796	3.8	32	-N	3	C		49		Y5
817 BIGB	29	2054	2055	2059	N05	E69	.938	15802	4.0	5	-N	1	C	2055	10		Y5
818 CULG	29	2101	2107	2115	S26	W75	.961	15779	24.3	14	-F		C	2107	20		Y5
819 RAMY	29	2129	2134	2145	N22	E65	.936	15796	3.8	16	-F	3	C				Y5
820 RAMY	29	2137	2139	2144	N08	W71	.952	15777	24.6	7	-N	3	C				Y5
821 CULG	29	2138	2139	2153	S24	W25	.502	15786	28.0	15	-N		C	2139	60	.7	Y5
822 CULG	29	2144	2148	2158	N11	E73	.964	15802	4.4	14	-F		C	2148	80		Y5
GRP71823	30	0017+2	0022+1	0036D	S26	W28	.551	15786	27.9	19	-N				120	1.5	
CULG	30	0017	0023	0210	S25	W28	.544	15786	27.9	113	-N		C	0023	130	1.6	
PALE	30	0019	0022	0036	S27	W29	.570	15786	27.8	17	-B	3	C		108		DE F
824 CULG	30	0208	0217	0224	S12	W90	1.000	15778	23.3	16	-N		C	0217	10		Y5
825 CULG	30	0209	0213	0220	N23	W80	.993	0	24.1	11	-F		C	0213	20		Y5
826 CULG	30	0259	0305	0321	N18	W88	1.000	15777	23.5	22	-N		C	0305	20		Y5
GRP71827	30	1005+4	1005 1017	1020	S13	E76	.966	15804	8.1	15	-F						
CATA	30	1005	1005	1010	S12	E76	.967	15804	5.1	5	-N	2	C	1005	28	1.6	
KANZ	30	1009	1017	1029	S14	E77	.970	15804	5.2	20	-F	2					
828 ATHN	30	1012E	1015	1040	S26	W32	.596	15786	28.0	28D	-N	1		1015	196	2.2	Y5
GRP71829	30	1100>9	1100 1113+4	1155	S26	W34	.618	15786	27.9	55	1N				280	3.6	EU
CATA	30	1100	1100	1155	S27	W34	.624	15786	27.9	55	1B	2	C	1100	252	2.4	
TELV	30	1105	1113	1215	S27	W33	.613	15786	28.0	70	1N		C	1113	325	4.0	U
KANZ	30	1110	1117	1148	S25	W34	.612	15786	27.9	38	1N	2					
HTPR	30	1113E		1124D	S25	W35	.624	15786	27.8	11D	1N		C	1113	230	2.8	E
830 KANZ	30	1205	1230	1245	S25	E85	.993	15800	5.9	40	-N	2					Y5
	30	1317	1347	NO FLARE PATROL													
	30	1408	1419	NO FLARE PATROL													
831 RAMY	30	1425	1429	1434	N08	E53	.816	15802	3.6	9	-B	3	C		26		Y5
832 MCMA	30	1503E		1511	N15	W90	1.000	15777	23.9	8D	?N		C	1503			Y5
	IMP.1 NO 1 RAMY HTPR																
833 MCMA	30	1504	1506	1510	S13	E77	.971	15804	5.4	6	-N		C	1506	25	1.2	D Y5
GRP71834	30	1530+0	1530+0	1552	S26	W37	.651	15786	27.9	22	-N				60	.8	E
HOLL	30	1530	1530	1551	S27	W35	.635	15786	28.0	21	-N	3	C		53		
MCMA	30	1530E	1530	1553	S25	W40	.679	15786	27.6	23D	-N		C	1530	80	1.2	E
835 RAMY	30	1914	1914	1918	N08	E50	.785	15802	3.6	4	-N	3	C		27		Y5
GRP71836	30	2054+1	2056+0	2104	N09	E50	.788	15802	6.6	10	-B				50	.8	
HOLL	30	2054	2056	2105	N10	E52	.811	15802	3.8	11	-B	3	C		59		
RAMY	30	2055	2056	2102	N08	E49	.775	15802	3.5	7	-B	3	C		36		
GRP71837	30	2059+1	2100+1	2105	N22	E51	.840	15796	6.7	6	-N				15	.3	
HOLL	30	2059	2101	2105	N22	E51	.840	15796	3.7	6	-N	3	C		19		
RAMY	30	2100	2100	2105	N22	E52	.848	15796	3.8	5	-N	3	C		14		
838 RAMY	30	2106	2107	2113	S14	E68	.922	15804	5.0	7	-N	3	C		24		Y5
839 CULG	30	2110E	2110	2117D	N06	E54	.821	15802	3.9	7D	-N		P	2110	40	.7	Y5
840 RAMY	30	2126	2139	2140	N22	E52	.848	15796	3.8	14	-N	3	C		19		Y5
841 HOLL	30	2149	2149	2204	N22	E51	.840	15796	3.7	15	-N	3	C		15		Y5
842 PALE	31	0301	0319	0323D	S28	W43	.723	15786	27.9	22D	-N	3	C		55		FDE Y5
GRP71843	31	0735>9	0804	0807	S10	E67	.916	15804	8.3	32	-F						D
ISTA	31	0735		0805	S07	E67	.917	15804	5.3	30	-F						D
KAND	31	0804	0804	0809	S13	E67	.916	15804	5.4	5	-F		C		31	1.1	

Hα SOLAR FLARES

JANUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
844 ISTA	31	0800		0812	N10	W90	1.000	15777	24.6	12	-F						A	Y5
845 KANZ	31	0817	0817	0822	S16	E65	.902	15804	5.2	5	-F	2						Y5
846 ISTA	31	0840		0850	N21	W73	.972	15787	25.9	10	-F						D	Y5
847 KAND	31	0854	0908	0918	N11	W90	1.000	15777	24.6	24	-N		C					Y5
848 ISTA	31	0912		0927	N07	E48	.762	15802	4.0	15	-F						D	Y5
GRP71849	31	0929+0	0932+1	0939	S13	E64	.894	15804	8.2	10	-N							
KANZ	31	0929	0932	0939	S14	E65	.901	15804	5.3	10	-N	2						
HTPR	31	0929	0933	0938	S13	E64	.894	15804	5.2	9	-N		C	0933	40	.8		
GRP71850	31	1040+1	1045+1	1056	N22	W76	.983	15787	25.7	16	-F						A	
KAND	31	1040	1045	1058	N22	W77	.986	15787	25.7	18	-F		C				A	
KANZ	31	1041	1046	1054	N23	W75	.980	15787	25.8	13	-F	1						
GRP71851	31	1114+2	1115+1	1119	S13	E61	.870	15804	8.0	5	-F				40	.8		
KAND	31	1114	1116	1120	S14	E60	.862	15804	5.0	6	-F		C		35	.8		
HTPR	31	1114	1115	1119	S13	E62	.878	15804	5.1	5	-F		C	1115	20	.4		
CATA	31	1115E	1115	1115D	S13	E69	.929	15804	5.6		-B	2	P	1115	56	2.0		
KANZ	31	1116	1116	1116	S14	E58	.844	15804	4.8		-F	1						
GRP71852	31	1236+3	1239 1247	1307	N07	E43	.705	15802	6.7	31	-F							
KANZ	31	1236	1247	1301	N06	E42	.689	15802	3.7	25	-F	2						
HTPR	31	1239	1239	1255	N08	E43	.708	15802	3.8	16	-F		C	1239	20	.3		
HTPR	31	1243	1256	1313	N10	E45	.738	15802	3.9	30	-F		C	1256	20	.3		
853 KANZ	31	1353	1359	1407	N06	E25	.464	0	2.5	14	-N	2					DG	Y5
GRP71854	31	1444+0	1446+6 1507	1530D	S25	W49	.772	15786	27.9	46	-B						K	
KANZ	31	1444	1452	1456D	S25	W49	.772	15786	27.9	12D	-B	1						
HTPR	31	1444	1446	1530	S27	W49	.778	15786	27.9	46	-N		C	1446	30	.6	EFK	
RAMY	31	1444	1507	1606	S25	W51	.792	15786	27.8	82	1B	3	C		322		FDE	
	31	1601	1617	NO FLARE PATROL														
855 RAMY	31	1614	1618	1642	S25	W51	.792	15786	27.9	28	-B	3	C		104		F	Y5
856 CULG	31	2048	2132	0200	S33	E12	.489	15798	1.8	312	?N		C	2132	330	3.8	SI	Y5
	IMP.1 NO I HOLL PALE																	
857 CULG	31	2050	2107U	2208	S14	E60	.862	15804	5.4	78	?F		C	2107	100	2.1		Y5
	IMP.1 NO I HOLL PALE																	
	31	2238	2243	NO FLARE PATROL														

Peking Hα Solar Flares for January 1979
(Received too late for Inclusion in Group Reports)

PEKG	01	0450E	0450	0455	S42	W80	.984	25.2	5D	SF	P	0450	13		D	
PEKG	04	0601E	0601	0605	S13	W07	.198	3.7	4D	SN	C	0601	63	32.0	D	
PEKG	09	0200	0208	0215	N17	E51	.812	12.9	15	SN	C	0208	105	89.0	D	
PEKG	09	0340	0400	0515	N09	W12	.296	8.3	95	1B	C	0400	336	76.0	EF	
PEKG	09	0605	0606	0609	N20	E50	.812	13.0	4	SN	P	0606	109	92.0	D	
PEKG	10	0145E	0145	0146D	N09	W25	.466	8.2	1D	1N	P	0145	420	38.0	FE	
PEKG	10	0724	0725	0731	N15	E35	.632	12.9	7	1N	C	0725	252	65.0	E	
PEKG	13	0230	0236	0245	N14	W01	.291	13.0	15	SF	C	0236	126	66.0	E	
PEKG	13	0305	0309	0317	S17	W48	.757	9.5	12	SF	C	0309	84	63.0	D	
PEKG	13	0311	0315	0320	N13	W02	.276	13.0	9	1N	C	0315	252	33.0	E	
PEKG	14	0540	0543	0550	N15	W01	.306	14.2	10	SN	C	0543	84	45.0	E	
PEKG	14	0601	0603	0610	N15	W17	.415	13.0	9	SN	C	0603	84	47.0	E	
PEKG	15	0348E	0348	0356	N16	W30	.574	12.9	8D	SN	P	0348	84	52.0	E	
PEKG	15	0522	0527	0536	N15	W32	.592	12.8	14	SN	C	0527	42	27.0	E	
PEKG	15	0714	0726	0746	N15	W33	.604	12.8	32	2B	C	0726	547	48.0	F	
PEKG	15	0737	0742	0742D	S21	W74	.962	9.8	5D	SN	P	0742	84		D	

Editor's Note: Peking Observatory data, though received too late for complete data processing, are included here as a supplemental list to the grouped flare data. These Peking data present additional valuable information on solar flare occurrences.

Hα SOLAR FLARES

JANUARY 1979

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
PEKG	18	0042E	0050	0105	S15	E50	.776		21.8	23D	SF		P	0050	84	67.0	D
PEKG	18	0042E	0050	0110	N13	W70	.946		12.8	28D	1N		P	0050	252		E
PEKG	18	0055E	0055	0100D	N19	E49	.795		21.7	5D	SF		P	0055	105	86.0	
PEKG	18	0210	0215	0230	N14	W71	.952		12.8	20	1N		P	0215	126		E
PEKG	18	0250	0255	0310	N15	W70	.948		12.9	20	SF		P	0255	50		
PEKG	18	0425E	0425	0435	N14	W73	.962		12.7	10D	2N		C	0425	252		E
PEKG	18	0653	0654	0700	N12	W74	.965		12.7	7	SN		C	0654	84		D
PEKG	19	0230E	0230	0240	N19	E35	.648		21.7	10D	SF		C	0230	126	85.0	E
PEKG	19	0240E	0240	0250	N14	E74	.966		24.7	10D	SF		C	0240	50		D
PEKG	19	0425E	0430	0440	S23	W09	.383		18.5	15D	1N		C	0430	378	01.0	F
PEKG	21	0120E	0120	0130	S27	E37	.687		23.8	10D	SF		P	0120	84	56.0	E
PEKG	21	0425E	0425	0430	N11	E41	.679		24.3	5D	SF		P	0425	42	29.0	D
PEKG	23	0135	0150	0156	N20	W14	.434		22.0	21	SN		P	0150	105	60.0	D
PEKG	23	0410	0415	0420	N20	W15	.443		22.0	10	SF		P	0415	84	48.0	
PEKG	23	0443E	0443	0445	N12	E14	.335		24.2	2D	SF		C	0443	42	23.0	D
PEKG	23	0630	0636	0640	N21	W16	.464		22.1	10	SN		C	0636	168	97.0	E
PEKG	23	0637	0642	0652	N11	E14	.324		24.3	15	2B		C	0642	547	95.0	FU
PEKG	23	0656	0659	0710	N13	E12	.325		24.2	14	SN		C	0659	168	90.0	EF
PEKG	23	0705	0718	0725D	N21	E40	.710		26.3	20D	SF		C	0718	84	61.0	F
PEKG	24	0140	0149	0205	N11	E10	.277		24.8	25	2N		C	0149	547	90.0	I
PEKG	24	0335D	0339	0342	N21	E19	.489		25.6	7D	SF		C	0339	42	25.0	D
PEKG	24	0740E	0740	0750	N12	W01	.237		24.2	10D	SN		P	0740	168	88.0	
PEKG	25	0140	0145	0210	S28	W23	.565		23.3	30	SF		P	0145	84	49.0	E
PEKG	25	0420	0430	0430D	S15	E20	.405		26.7	10D	SN		P	0430	63	34.0	E
PEKG	25	0504	0509	0515	S29	W25	.593		23.3	11	SF		P	0509	42	25.0	D

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

JANUARY 1979

DAILY FLARE INDICES
Includes all Flares

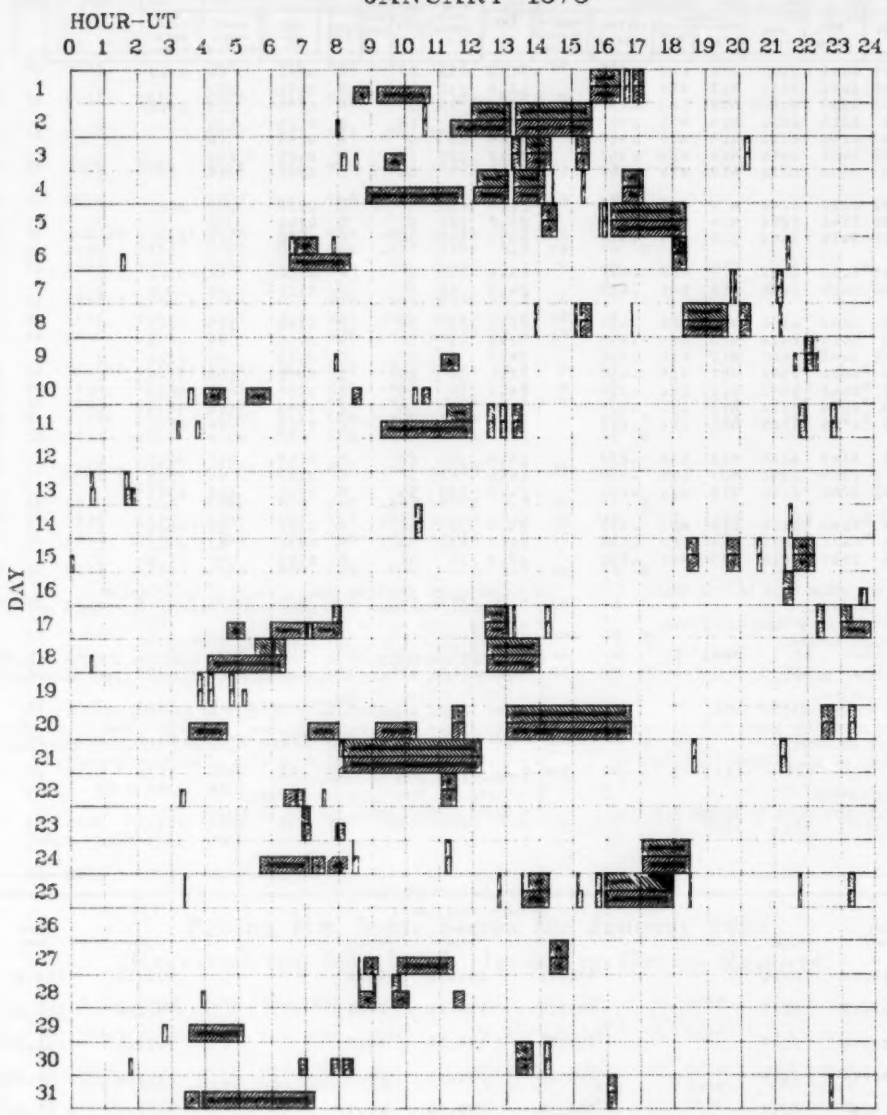
Date	Flare Index	HR. OBS	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
790101	89.67	22.6	790112	183.30	24.0	790123	114.65	23.8
790102	93.13	20.5	790113	234.16	23.8	790124	314.20	22.4
790103	126.46	22.5	790114	116.24	23.7	790125	241.70	20.7
790104	48.74	21.4	790115	193.72	22.5	790126	90.79	24.0
790105	115.67	21.2	790116	295.29	23.7	790127	94.76	23.5
790106	35.10	22.6	790117	49.32	22.3	790128	68.45	23.7
790107	78.53	23.7	790118	69.90	21.6	790129	99.24	24.0
790108	132.56	21.8	790119	109.91	23.6	790130	71.10	23.3
790109	135.16	23.6	790120	82.01	19.4	790131	19.66	23.7
790110	94.59	24.0	790121	190.00	19.5			
790111	163.02	22.2	790122	144.45	23.6			

When no Flare Index is given, it is 0 for that day.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JANUARY 1979



Observatories Included in total patrol:

Abastumani	Haute Provence	Kanzelhohe	McMath-Hulbert	Tashkent
Athenes	Herstmonceux	Kharkov	Mitaka	Tel Aviv
Big Bear	Holloman	Kodaikanal	Monte Mario	Tehran
Bucharest	Huancayo	Locarno	Palehua	Upice
Catania	Istanboul	Lvov	Peking	Voroshilov
Culgoora	Kandilli	Manila	Ramey	Wendelstein
				Zürich

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

REGIONAL FLARE INDEX

INCLUDES ALL FLARES

DECEMBER 1978

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15684	S31	78/12/02.1	78/11/27	78/12/10	51.25	3.66	25
15687	S18	78/12/02.8	78/11/29	78/12/11	362.49	27.88	69
15689	S19	78/12/06.9	78/12/07	78/12/12	48.19	8.03	8
15691	N21	78/12/07.1	78/12/03	78/12/13	45.65	4.15	13
15694	S23	78/12/08.5	78/12/03	78/12/15	668.04	51.39	96
15699	N23	78/12/11.5	78/12/12	78/12/15	4.24	1.06	2
15696	S24	78/12/11.7	78/12/06	78/12/18	111.12	8.55	16
15700	N16	78/12/12.7	78/12/06	78/12/18	257.01	19.77	66
15697	S19	78/12/13.2	78/12/06	78/12/20	1532.44	102.16	122
15702	N23	78/12/14.6	78/12/13	78/12/13	5.28	5.28	1
15717	N19	78/12/15.2	78/12/17	78/12/21	11.83	2.37	5
15704	N21	78/12/16.3	78/12/16	78/12/22	119.53	17.08	41
15707	S22	78/12/17.5	78/12/14	78/12/21	25.04	3.13	8
15709	S21	78/12/18.9	78/12/15	78/12/23	62.31	6.92	19
15727	N16	78/12/19.4	78/12/23	78/12/24	3.44	1.72	4
15710	N24	78/12/19.8	78/12/17	78/12/17	1.90	1.90	1
15718	N24	78/12/20.2	78/12/22	78/12/22	8.72	8.72	3
15711	N23	78/12/21.3	78/12/19	78/12/19	3.38	3.38	1
15712	N16	78/12/22.1	78/12/19	78/12/23	53.76	10.75	11
15714	S29	78/12/22.2	78/12/28	78/12/28	1.84	1.84	2
15738	S22	78/12/24.3	78/12/27	78/12/29	6.30	2.10	8
15722	N18	78/12/25.0	78/12/24	78/12/24	11.17	11.17	2
15723	N12	78/12/25.7	78/12/21	78/12/25	24.11	4.82	7
15735	S28	78/12/26.5	78/12/28	78/12/28	3.53	3.53	1
15725	S14	78/12/28.0	78/12/24	78/12/24	2.02	2.02	1
15726	N11	78/12/29.1	78/12/23	79/01/02	122.99	11.18	31
15731	N28	78/12/29.5	78/12/22	78/12/23	2.54	1.27	3
15730	N36	78/12/29.5	78/12/28	78/12/28	3.58	3.58	1
15751	N16	78/12/29.6	79/01/01	79/01/05	8.08	1.62	7
15729	S19	78/12/30.0	78/12/28	78/12/29	10.88	5.44	2
15732	N18	78/12/30.0	78/12/28	78/12/28	9.39	9.39	2
15733	S19	78/12/30.6	78/12/23	79/01/08	496.80	29.22	58
15734	S25	78/12/31.2	78/12/24	79/01/05	40.38	3.11	15

UAG Series of Reports

UAG Reports are issued on an irregular basis, with 6 to 12 reports being issued each year. Subscriptions may be ordered through the National Geophysical and Solar-Terrestrial Data Center, Environmental Data and Information Service, NOAA, Boulder, CO 80303, USA. The annual subscription price is $25.20 ($17.30 additional for foreign mailing). In years when the single price copies are less than $25.20, arrangements will be made to extend the subscription duration. Single issues are also available at the prices shown below. Some of the issues are now out of print and are available only on microfiche. Orders must include check or money order payable in U.S. currency to the Department of Commerce, NOAA/NGSDC. $2.00 handling charge per order.

UAG-1 "IQSY Night Airglow Data", price $1.75.
UAG-2 "A Reevaluation of Solar Flares, 1964-1966", price 30 cents.
UAG-3 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 6 July 1966 through 8 September 1968", microfiche only, price 45 cents.
UAG-4 "Abbreviated Calendar Record 1966-1967", price $1.25.
UAG-5 "Data on Solar Event of May 23, 1967 and its Geophysical Effects", price 65 cents.

UAG-6 "International Geophysical Calendars 1957-1969", price 30 cents.
UAG-7 "Observations of the Solar Electron Corona: February 1964-January 1968", price 15 cents.
UAG-8 "Data on Solar-Geophysical Activity October 24-November 6, 1968", price (includes Parts 1 & 2) $1.75.
UAG-9 "Data on Cosmic Ray Event of November 18, 1968 and Associated Phenomena", price 55 cents.
UAG-10 "Atlas of Ionograms", price $1.50.

UAG-11 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).
UAG-12 "Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970", price (includes Parts 1-3) $3.00.
UAG-13 "Data on the Solar Proton Event of November 2, 1969 through the Geomagnetic Storm of November 8-10, 1969, price 50 cents.
UAG-14 "An Experimental, Comprehensive Flare Index and Its Derivation for 'Major' Flares, 1955-1969", price 30 cents.
UAG-15 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).

UAG-16 "Temporal Development of the Geographical Distribution of Auroral Absorption for 30 Substorm Events in each of IQSY (1964-65) and IASY (1969)", price 70 cents.
UAG-17 "Ionospheric Drift Velocity Measurements at Jicamarca, Peru (July 1967-March 1970)", microfiche only, price 45 cents.
UAG-18 "A Study of Polar Cap and Auroral Zone Magnetic Variations", price 20 cents.
UAG-19 "Reevaluation of Solar Flares 1967", price 15 cents.
UAG-20 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).

UAG-21 "Preliminary Compilation of Data for Retrospective World Interval July 26 - August 14, 1972", price 70 cents.
UAG-22 "Auroral Electrojet Magnetic Activity Indices (AE) for 1970", price 75 cents.
UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction, Second Edition, November 1972", edited by W. R. Piggott and K. Rawer, NGSDC/EDS/NOAA, November 1972, 324 pages, price $1.75.

UAG-23A "U.R.S.I. Handbook of Ionogram Interpretation and Reduction, Second Edition, November 1972", Revision of Chapters 1-4, edited by W. R. Piggott and K. Rawer, NGSDC/EDS/NOAA, July 1978, 135 pages, price $2.14.

UAG-24 "Data on Solar-Geophysical Activity Associated with the Major Ground Level Cosmic Ray Events of 24 January and 1 September 1971", price (includes Parts 1 and 2) $2.00.
UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971", price 35 cents.

UAG-26 "Data Compilation for the Magnetospherically Quiet Periods February 19-23 and November 29 - December 3, 1970", price 70 cents.
UAG-27 "High Speed Streams in the Solar Wind", price 15 cents.
UAG-28 "Collected Data Reports on August 1972 Solar-Terrestrial Events", price (includes Parts 1-3) $4.50.
UAG-29 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1968", price 75 cents.
UAG-30 "Catalogue of Data on Solar-Terrestrial Physics", price $1.75.

UAG-31 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1969", price 75 cents.
UAG-32 "Synoptic Radio Maps of the Sun at 3.3 mm for the Years 1967-1969", price 35 cents.
UAG-33 "Auroral Electrojet Magnetic Activity Indices AE (10) for 1967", price 75 cents.
UAG-34 "Absorption Data for the IGY/IGC and IQSY", price $2.00.
UAG-35 "Catalogue of Digital Geomagnetic Variation Data at World Data Center A for Solar-Terrestrial Physics", price 20 cents.

UAG-36 "An Atlas of Extreme Ultraviolet Flashes of Solar Flares Observed Via Sudden Frequency Deviations During the ATM-SKYLAB Missions", price 55 cents.
UAG-37 "Auroral Electrojet Magnetic Activity Indices AE (10) for 1966", price 75 cents.
UAG-38 "Master Station List for Solar-Terrestrial Physics Data at WDC-A for Solar-Terrestrial Physics", price $1.60.
UAG-39 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1971", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, February 1975, 144 pages, price $2.05.

UAG-40 "H-Alpha Synoptic Charts of Solar Activity For the Period of Skylab Observations, May, 1973-March, 1974", by Patrick S. McIntosh, NOAA Environmental Research Laboratories, February 1975, 32 pages, price 56 cents.

UAG-41 "H-Alpha Synoptic Charts of Solar Activity During the First Year of Solar Cycle 20, October, 1964 - August, 1965", by Patrick S. McIntosh, NOAA Environmental Research Laboratories, and Jerome T. Nolte, American Science and Engineering, Cambridge, Massachusetts, March 1975, 25 pages, price 48 cents.

UAG-42 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-80 MHz 10 December 1971 through 21 March 1975", by James W. Warwick, George A. Dulk, and Anthony C. Riddle, Department of Astro-Geophysics, University of Colorado, Boulder, Colorado 80302, April 1975, 49 pages, price $1.15.

UAG-43 "Catalog of Observation Times of Ground-Based Skylab-Coordinated Solar Observing Programs", compiled by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, May 1975, 159 pages, price $3.00.

UAG-44 "Synoptic Maps of Solar 9.1 cm Microwave Emission from June 1962 to August 1973", by Werner Graf and Ronald N. Bracewell, Radio Astronomy Institute, Stanford University, Stanford, California 94305, May 1975, 183 pages, price $2.55.

UAG-45 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1972", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, May 1975, 144 pages, price $2.10.

UAG-46 "Interplanetary Magnetic Field Data 1963-1974", by Joseph H. King, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, June 1975, 382 pages, price $2.95.

UAG-47 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1973", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, June 1975, 144 pages, price $2.10.

UAG-48A "Synoptic Observations of the Solar Corona during Carrington Rotations 1580-1596 (11 October 1971 - 15 January 1973)", [Reissue with quality images] by R. A. Howard, M. J. Koomen, D. J. Michels, R. Tousey, C. R. Detwiler, D. E. Roberts, R. T. Seal and J. D. Whitney, E. O. Hulbert Center for Space Research, NRL, Washington, D. C. 20375 and R. T. and S. F. Hansen, C. J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, Colorado 80303, February 1976, 200 pages, price $4.27.

UAG-49 "Catalog of Standard Geomagnetic Variation Data", prepared by Environmental Data Service, NOAA, Boulder, Colorado, August 1975, 125 pages, price $1.85.

UAG-50 "High-Latitude Supplement to the URSI Handbook on Ionogram Interpretation and Reduction", by W. R. Piggott, British Antarctic Survey, c/o SRC, Appleton Laboratory, Ditton Park, Slough, England, October 1975, 292 pages, price $4.00.

UAG-51 "Synoptic Maps of Solar Coronal Hole Boundaries Derived from He II 304Å Spectroheliograms from the Manned Skylab Missions", by J. D. Bohlin and D. M. Rubenstein, E. O. Hulbert Center for Space Research, Naval Research Laboratory, Washington, D. C. 20375 U.S.A., November 1975, 30 pages, price 54 cents.

UAG-52 "Experimental Comprehensive Solar Flare Indices for Certain Flares, 1970-1974", compiled by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, The University of Michigan, 895 Lake Angelus Road North, Pontiac, Michigan 48055 U.S.A., November 1975, 27 pages, price 60 cents.

UAG-53 "Description and Catalog of Ionospheric F-Region Data, Jicamarca Radar Observatory (November 1966 - April 1969)", by W. L. Clark and T. E. Van Zandt, Aeronomy Laboratory, NOAA, Boulder, Colorado 80302 and J. P. McClure, University of Texas at Dallas, Dallas, Texas 75230, April 1976, 10 pages, price 33 cents.

UAG-54 "Catalog of Ionosphere Vertical Soundings Data", prepared by Environmental Data Service, NOAA, Boulder, Colorado 80302, April 1976, 130 pages, price $2.10.

UAG-55 "Equivalent Ionospheric Current Representations by a New Method, Illustrated for 8-9 November 1969 Magnetic Disturbances", by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado 80302 and Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701, H. W. Kroehl, Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302, M. Kanamitsu, Advanced Study Program, National Center for Atmospheric Research, Boulder, Colorado 80303, J. H. Allen, Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302, and S.-I. Akasofu, Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701, April 1976, 91 pages, price $1.60.

UAG-56 "Iso-intensity Contours of Ground Magnetic H Perturbations for the December 16-18, 1971 Geomagnetic Storm", by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado 80302 and Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701 (currently Guest worker at Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302), April 1976, 37 pages, price $1.39.

UAG-57 "Manual on Ionospheric Absorption Measurements", edited by K. Rawer, Institut für Physikalische Weltraumforschung, Freiburg, G.F.R., June 1976, 202 pages, price $4.27.

UAG-58 "ATS6 Radio Beacon Electron Content Measurements at Boulder, July 1974 - May 1975", by R. B. Fritz, Space Environment Laboratory (currently with Wave Propagation Laboratory), NOAA, Boulder, Colorado 80302 USA, September 1976, 61 pages, price $1.04.

UAG-59 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1974", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, December 1976, 144 pages, price $2.16.

UAG-60 "Geomagnetic Data for January 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, July 1977, 57 pages, price $1.07.

UAG-61 "Collected Data Reports for STIP Interval II 20 March - 5 May 1976", edited by Helen E. Coffey and John A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, August 1977, 313 pages, price $2.95.

UAG-62 "Geomagnetic Data For February 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, September 1977, 55 pages, price $1.11.

UAG-63 "Geomagnetic Data for March 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, September 1977, 57 pages, price $1.11.

UAG-64 "Geomagnetic Data for April 1976 (AE(8) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, February 1978, 55 pages, price $1.00.

UAG-65 "The Information Explosion and Its Consequences for Data Acquisition, Documentation, and Processing" by G. K. Hartmann, Max-Planck-Institut für Aeronomie, D-3411 Katlenburg-Lindau 3, GFR, May 1978, 36 pages, price 75 cents.

UAG-66 "Synoptic Radio Maps of the Sun at 3.3mm 1970-1973" by Earle B. Mayfield, Space Science Lab., and Fred I. Shimabukuro Electronics Res. Lab., The Ivan A. Getting Laboratories, The Aerospace Corp., El Segundo, California 90245, May 1978, 30 pages, price 75 cents.

UAG-67 "Ionospheric D-Region Profile Data Base, A Collection of Computer-Accessible Experimental Profiles of the D and Lower E Regions", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pages, price 88 cents.

UAG-68 "A Comparative Study of Methods of Electron Density Profile Analysis", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, September 1978, 56 pages, price $1.41.

UAG-69 "Selected Disturbed D-Region Electron Density Profiles. Their relation to the undisturbed D region", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, October 1978, 50 pages, price $1.29.

UAG-70 "Annotated Atlas of Hα Synoptic Charts for Solar Cycle 20 (1964-1974) Carrington Solar Rotations 1487-1616", by Patrick S. McIntosh, Space Environment Laboratory, ERL/NOAA, February 1979, 327 pages, price $3.50.

UAG-71 "Magnetic Potential Plots Over the Northern Hemisphere for 26-28 March 1976", by A.D. Richmond, SEL/ERL/NOAA, H.W. Kroehl, NGSDC/EDIS/NOAA, M.A. Henning, Lockheed Missiles and Space Co., Aurora, CO, and Y. Kamide, Kyoto Sangyo Univ., Kyoto, Japan, April 1979, 115 pages, price $1.50.

UAG-72 "Energy Release in Solar Flares, Proceedings of the Workshop on Energy Release in Flares, 26 February-1 March 1979, Cambridge, Massachusetts, U.S.A.", edited by David M. Rust, American Science and Engineering, Inc., Cambridge, MA and A. Gordon Emslie, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, July 1979, 68 pages, price $1.50.

☆GPO 1979—677-073/4